Exhibit 194

BLAKE LIVELY, Plaintiff, v. WAYFARER STUDIOS LLC, a Delaware Limited Liability Company, JUSTIN BALDONI, an individual, JAMEY HEATH, an individual, STEVE SAROWITZ, an individual, IT ENDS WITH US MOVIE LLC, a California Limited Liability Company, MELISSA NATHAN, an individual, THE AGENCY GROUP PR LLC, a Delaware Limited Liability Company, JENNIFER ABEL, an individual, JED WALLACE, an individual, and STREET RELATIONS INC., a California Corporation Defendants.	Case No. 1:24-cv-10049-LJL

EXPERT REPORT OF PROFESSOR ARON CULOTTA, PH.D.
October 17, 2025

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I. QUALIFICATIONS

1. I am a Professor of Computer Science at Tulane University, where I have taught since August 2020. Prior to joining Tulane, I was an Assistant and then Associate Professor of Computer Science at the Illinois Institute of Technology. I earned an M.S. and Ph.D. in computer science from University of Massachusetts, Amherst in 2006 and 2008, respectively, supported in part by a Microsoft fellowship. I earned a B.S. in computer science *summa cum laude* from Tulane University in 2002.

2. My areas of research focus are social network analysis, natural language processing, and machine learning. I have published over 80 peer-reviewed research articles on these topics and received over $4 million in external grant funding to support my research efforts. I have published a range of studies applying computational methods to analyze online perceptions of brands,[1,2] influence operations,[3] and cyberbullying.[4,5]

3. I have taught advanced graduate and undergraduate courses on Online Social Network Analysis, Natural Language Processing, and Artificial Intelligence. I regularly give invited talks on my research at international academic conferences and workshops on these topics.

4. Since 2021, I have served on the Steering Committee of the International Conference on Web and Social Media (ICWSM), the foremost conference for researchers developing computational approaches to online social network data. I have also served as Program Co-Chair for ICWSM in 2020 and have been a member of its Senior Program Committee since 2019. I also

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[1] Culotta, Aron, and Jennifer Cutler. "Mining brand perceptions from twitter social networks." *Marketing science* 35.3 (2016): 343-362.

[2] Nguyen, Tung, Li Zhang, and Aron Culotta. "Estimating tie strength in follower networks to measure brand perceptions." In *Proceedings of the 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, pp. 779-786. 2019.

[3] Balasubramanian, S. K., Bilgic, M., Culotta, A., Hemphill, L., Nikolich, A., & Shapiro, M. A. (2022, May). Leaders or followers? A temporal analysis of tweets from IRA trolls. In *Proceedings of the International AAAI Conference on Web and Social Media* (Vol. 16, pp. 2-11).

[4] Liu, Ping, Joshua Guberman, Libby Hemphill, and Aron Culotta. "Forecasting the presence and intensity of hostility on Instagram using linguistic and social features." In *Proceedings of the international AAAI conference on web and social media*, vol. 12, no. 1. 2018.

[5] Radfar, Bahar, Karthik Shivaram, and Aron Culotta. "Characterizing variation in toxic language by social context." In *Proceedings of the international AAAI conference on web and social media*, vol. 14, pp. 959-963. 2020.

serve as an Action Editor for the Association of Computational Linguistics and a Senior Program Committee member for the AAAI Conference on Artificial Intelligence and the ACM Web Science Conference. In these roles, I regularly lead the peer-review of manuscripts on natural language processing, social network analysis, and machine learning.

5. I have also had many other leadership roles in this research community at top journals and conferences. I served as the Managing Editor of the Journal for Machine Learning Research; the Online Proceedings Chair for the Conference on Neural Information Processing Systems; and Senior Program Committee for the International Joint Conference on Artificial Intelligence. I also regularly serve on National Science Foundational panels to review proposals and recommend funding in this area of research. My professional qualifications are described further in my curriculum vitae, which is attached as Appendix A. My testimony from the last four years is attached as Appendix B.

6. For my work in this matter, I am being compensated at my consulting rate of $800 per hour plus any associated work or travel expenses.[6]

II. ASSIGNMENT

7. I have been asked by counsel for Ms. Lively to review documents produced by the Defendants related to their plans for a "Social / Digital Mitigation / Remediation" campaign[7] and assess whether or not there are markers of inauthenticity among the posts or platforms discussed therein.

8. A list of the materials I considered as part of my review can be found in Appendix C. My conclusions from this review and analysis follow, and I reserve the right to amend or supplement this report if more data, information, or testimony become available.

[6] Research assistants, working under my direction and guidance, have assisted me in the preparation of this report. Neither my compensation nor that of the others who assisted in this project is contingent upon my findings, the testimony I may give, or the outcome of this litigation.

[7] ABEL_000005094.

III. SUMMARY OF OPINIONS

9. I have drawn the following conclusions based on my experience and work in this matter:

A. Indicia of a campaign to manipulate online discussion of Ms. Lively in August 2024 are apparent when assessing engagement with TikTok posts about Ms. Lively.

a. Engagement patterns among Top-Comments (*i.e.,* the comments that gathered the greatest number of likes on a given post) are indicative of a coordinated effort to boost engagement with content expressing negative sentiment towards Ms. Lively. Top-Comments that express negative sentiment toward Ms. Lively generated more than twice as many likes as would be expected based on the total number of likes generated by the parent post. Top-Comments that expressed positive sentiment toward Mr. Baldoni displayed a similar pattern, generating more likes than would be expected based on the number of likes on the parent post. Both results are statistically significant and practically significant deviations from expected values.

b. Nearly all the Top-Comments with the greatest number of unexpected likes expressed anti-Lively sentiment. Notably, among the highly unusual Top-Comments are ones made on posts that the Wayfarer Defendants discussed in internal text messages.

c. A review of a series of individual posts with abnormally high volumes of comments and likes reveals a suspicious pattern of repeated themes and language in the comments. In many cases, these posts contain numerous comments with abnormally high like counts that contain similar terms. Posts that the Wayfarer Defendants have discussed display similar patterns of inauthenticity.

B. Indicia of a campaign to manipulate online discussion of Ms. Lively in August 2024 are apparent when assessing upvote patterns on Reddit.

a. The r/Fauxmoi subreddit is the largest celebrity discussion community on Reddit. Analyzing comment upvote patterns across posts published from May 1, 2024 through August 31, 2024 shows multiple extreme statistical outliers associated with comments published in August.

b. Comment scores for August 14, 2024 are unlike any other day in the entire period. The combined count of all upvotes to comments in this period is more than five standard deviations above the mean. Three posts related to Ms. Lively and Mr. Baldoni account for the vast majority of comment upvotes on this day. Further, almost all the highest scoring comments express anti-Lively or pro-Baldoni sentiment. Conversely, the lowest scoring comments (those with the most net downvotes) consistently express pro-Lively or anti-Baldoni sentiment. I

also observed a large discrepancy between the historical and current upvote counts on the post featuring the "little bump" interview, where no similar discrepancy is observed among other highly upvoted posts published on that day.

c. Multiple other statistical outliers are observed in comments about Ms. Lively published in the August period. Comments related to Ms. Lively and Mr. Baldoni are among the most upvoted of the more than 480,000 comments published on r/Fauxmoi during my period of analysis. Here too, the highest-ranking comments from August about Ms. Lively or Mr. Baldoni consistently express negative sentiment towards Ms. Lively and positive sentiment towards Mr. Baldoni. Conversely, the lowest-ranking comments express positive sentiment towards Ms. Lively.

d. The extreme outliers in comment upvote counts along with the striking consistency in the sentiment expressed point strongly to a coordinated campaign.

C. Indicia of a campaign to manipulate online discussion of Ms. Lively in August 2024 are apparent when assessing engagement with the "little bump" interview.

a. The "little bump" interview received few views and little commentary in the initial days after it was uploaded to YouTube. This changed after the TAG PR team suggested that the content "should be sent to Jed, right?" In the hours that followed, comments on the "little bump" interview increased rapidly.

b. Over this same period, the volume and popularity of comments that included "bully" grew at a disproportionately higher rate than before the Wayfarer Defendants' discussed the video in internal text messages.

IV. BACKGROUND

A. Blake Lively

10. Blake Ellender Lively is an American actress, producer, and entrepreneur known for her work in film, television, and fashion. Ms. Lively rose to prominence in the early 2000s with lead roles in the 2005 film *The Sisterhood of the Traveling Pants* and in the television series *Gossip Girl*, which aired on The CW from 2007 to 2012.[8] She has since appeared in numerous major motion pictures, including *The Town*, *Savages*, *The Age of Adaline*, *A Simple Favor, and Another Simple*

[8] https://www.imdb.com/name/nm0515116/

Favor.[9] Ms. Lively has served as a brand ambassador for major companies, including *Chanel* and *Gucci*.[10] Ms. Lively founded the beverage brands *Betty Buzz* and *Betty Booze*, as well as the hair products company *Blake Brown Beauty*.[11] Ms. Lively is married to actor Ryan Reynolds, with whom she shares four children.[12]

B. Justin Baldoni, Wayfarer, etc.

11. Justin Louis Baldoni is a Los Angeles-born actor, director, producer, and author. From 2014 to 2019, Mr. Baldoni portrayed Rafael Solano in the television series *Jane the Virgin*, which aired on The CW network.[13] He has directed and produced several feature films, including *Five Feet Apart* and *Clouds*,[14] and is the author of the best-selling books *Man Enough: Undefining My Masculinity* and *Boys Will Be Human*.[15]

12. In 2019, Mr. Baldoni co-founded the production company Wayfarer Entertainment, which was later rebranded Wayfarer Studios in 2020.[16] The studio has developed and produced scripted and unscripted content for a range of formats, including feature films such as *Will & Harper* and *It Ends With Us.*[17] Wayfarer Studios also serves as a platform for Mr. Baldoni's new media projects, including his *Man Enough* podcast series.[18] Wayfarer Studios is based in Los Angeles.[19]

C. Case Background

13. In 2019, Mr. Baldoni, through Wayfarer Entertainment, acquired the rights to produce a film adaptation of Colleen Hoover's best-selling novel *It Ends With Us*.[20] The novel, published in

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9 https://www.imdb.com/name/nm0515116/

10 https://wwd.com/fashion-news/fashion-features/feature/chanel-gets-lively-3411642-1213879/; https://www.hollywoodreporter.com/news/general-news/blake-lively-named-new-face-gucci-fragrance-341153/

11 https://www.delish.com/food-news/a37723969/blake-lively-betty-buzz/, https://www.blakebrownbeauty.com/

12 https://people.com/parents/all-about-blake-lively-ryan-reynolds-children/

13 https://www.imdb.com/name/nm1682573/

14 https://www.imdb.com/name/nm1682573/

15 https://www.goodreads.com/author/show/20228975.Justin_Baldoni

16 https://www.forbes.com/sites/jeffconway/2024/08/08/meet-the-wayfarer-studios-team-bringing-it-ends-with-us-to-theaters/

17 https://www.wayfarerstudios.com/#projects

18 https://www.wayfarerstudios.com/#about

19 https://www.linkedin.com/company/wayfarerstudios/

20 https://variety.com/2019/film/news/justin-baldoni-it-ends-with-us-movie-jane-the-virgin-1203268293/

2016, centers on florist Lily Bloom and her relationship with neurosurgeon Ryle Kincaid. Inspired by Ms. Hoover's mother's personal experiences, the book explores subjects such as generational trauma and domestic violence.[21] *It Ends With Us* quickly became a commercial success following its release, spending over 90 weeks on *The New York Times* Best Seller list and garnering a large and devoted fanbase.[22]

14. In January 2023, Ms. Lively was cast in the film adaption of *It Ends With Us* in the lead role of Lily Bloom, with Mr. Baldoni attached both as the film's director and as co-star in the role of Ryle Kincaid.[23] *It Ends With Us* wrapped filming by around February 2024.[24]

15. *It Ends With Us* premiered in New York City on August 6, 2024.[25] In the months preceding the film's premiere, Ms. Lively was actively involved in marketing *It Ends With Us.*[26] The film was widely released in U.S. theaters on August 9, 2024, and became a commercial success—ultimately earning over $350 million worldwide.[27]

16. In the weeks surrounding the film's release, there was discussion on social media about a purported rift between Mr. Baldoni and Ms. Lively.[28] On August 2, 2024, Wayfarer Studios retained veteran crisis public relations specialist Melissa Nathan and her company The Agency Group PR LLC ("TAG").[29]

17. On December 20, 2024, Ms. Lively filed a complaint with the California Civil Rights Department alleging sexual harassment, retaliation, breach of contract, false light, defamation,

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21 https://www.today.com/popculture/books/colleen-hoover-it-ends-with-us-domestic-abuse-rcna91742

22 https://www.newsweek.com/it-ends-us-movie-blake-lively-cast-justin-baldoni-colleen-hoover-1777014

23 https://deadline.com/2023/01/blake-lively-justin-baldoni-sony-wayfarer-studios-adaptation-colleen-hoover-it-ends-with-us-1235242008/

24 Second Amended Complaint ¶15.

25 https://deadline.com/gallery/it-ends-with-us-premiere-red-carpet-photos/

26 See, for example, https://www.etonline.com/interview-blake-lively-shares-message-for-passionate-it-ends-with-us-book-fans-exclusive-227449, https://pagesix.com/2024/07/30/style/blake-lively-highlights-her-favorite-floral-fashion-moments-from-it-ends-with-us/.

27 https://www.boxofficemojo.com/title/tt10655524/

28 https://www.yahoo.com/entertainment/did-blake-lively-justin-baldoni-010955597.html; https://www.hollywoodreporter.com/movies/movie-news/blake-lively-justin-baldoni-it-ends-with-us-drama-what-we-know-1235969708/; https://tribune.com.pk/story/2486681/blake-lively-and-justin-baldoni-feud-rumors-heat-up-as-they-skip-it-ends-with-us-promotion

29 CHURLEY_00000020.

and other claims.[30] On December 21, 2024, The New York Times published an article titled "We Can Bury Anyone: Inside a Hollywood Smear Machine," reporting on allegations that Ms. Lively had experienced mistreatment by Mr. Baldoni, producer Jamey Heath, and Wayfarer Studios during the production of *It Ends With Us*.[31] The article also cited internal messages exchanged between Mr. Baldoni, Mr. Heath, Ms. Nathan, Ms. Abel and/or others discussing plans to launch a strategic public relations campaign to "bury" Ms. Lively, including plans to plant stories and circulate contrived commentary online promoting negative narratives about Ms. Lively intended to damage her reputation.[32]

18. On December 31, 2024, Ms. Lively filed her initial complaint in this action in U.S. District Court for the Southern District of New York.[33] Ms. Lively filed an amended complaint in this Action on February 18, 2025[34] and a second amended complaint on July 30, 2025.[35] The Wayfarer Parties filed a complaint against Ms. Lively and others in a separate action in the same district on January 16, 2025.[36] They filed a first amended complaint on January 31, 2025 after that case was consolidated with this action.[37] The Wayfarer Parties' first amended complaint was dismissed on June 9, 2025.[38]

V. INAUTHENTIC ONLINE ACTIVITY

A. Background on Inauthentic Online Activity

19. Inauthentic online activity refers to coordinated behavior in digital environments that aims to mislead, manipulate, or distort public discourse while concealing the true identity, intent, or origin of the actors involved.[39] This activity spans a spectrum of tactics and actors that simulate organic user behavior while cultivating alternative narratives and creating the illusion of popular

30 *See Lively v. Wayfarer Studios, et al.*, 1:24-cv-10049 (ECF No. 1).
31 https://www.nytimes.com/2024/12/21/business/media/blake-lively-justin-baldoni-it-ends-with-us.html
32 https://www.nytimes.com/2024/12/21/business/media/blake-lively-justin-baldoni-it-ends-with-us.html
33 *See Lively v. Wayfarer Studios, et al.*, 1:24-cv-10049 (ECF No. 1).
34 *See id.* (ECF No. 84).
35 *See Lively v. Wayfarer Studios, et al.*, 1:24-cv-10049 (ECF No. 520)
36 *See Wayfarer Studios, et al. v. Lively, et al.*, 1:25-cv-00449 (ECF No. 1).
37 *See Lively v. Wayfarer Studios, et al.*, 1:24-cv-10049 (ECF No. 50).
38 *Lively v. Wayfarer Studios, et al.*, 1:24-cv-10049 (ECF No. 296).
39 Ferrara, E., Varol, O., Davis, C., Menczer, F., & Flammini, A. (2016). The rise of social bots. *Communications of the ACM, 59*(7), 96–104.

support or dissent on social media.[40]

20. Researchers typically categorize inauthentic online activity into three primary forms: fully automated, fully human, and hybrid (human + automated). Automated or bot-based activity involves the use of software scripts – known as social bots – to post content, amplify messages, or mimic human engagement at scale. These bots can inflate popularity metrics, distort trending topics, and propagate disinformation.[41] Hybrid human-automated activity (often termed "cyborg" behavior) refers to accounts run by real people who also deploy automated scripts or social-media management tools to post and amplify content.[42] By alternating between human-like and automated activity over time, these actors blur the boundary between authentic and artificial engagement.[43] Fully human but coordinated or deceptive activity includes hired influencers, troll farms,[44] astroturf campaigns[45] or paid commenters who engage in strategic posting and manipulation, often at the behest of political, corporate, or ideological clients.[46]

21. Inauthentic online activity is an evolving and dynamic field of research, driven by the constant evolution of digital platforms, algorithmic detection methods, and adversarial tactics.[47] Campaigns can take many forms, can evolve over time, and may span multiple platforms and

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40 See, for example, Bradshaw, S., & Howard, P. N. (2018). Challenging truth and trust: A global inventory of organized social media manipulation. *Oxford Internet Institute*; Starbird, K. (2017). Examining the alternative media ecosystem through the production of alternative narratives of mass shooting events on Twitter. *Proceedings of the International AAAI Conference on Web and Social Media, 11*(1).

41 Keller, Tobias R; Klinger, Ulrike (2019). Social bots in election campaigns: theoretical, empirical, and methodological implications. *Political Communication, 36*(1):171-189.

42 Ng, L. H. X., Robertson, D. C., & Carley, K. M. (2024). Cyborgs for strategic communication on social media. *Big Data & Society*, *11*(1).

43 Ng, L. H. X., Robertson, D. C., & Carley, K. M. (2024). Cyborgs for strategic communication on social media. *Big Data & Society*, *11*(1).

44 "Troll farms" refer to "organisations that disseminate messages emulating genuine information" (Denter, P., & Ginzburg, B. (2024). Troll Farms. arXiv preprint arXiv:2411.03241).

45 "Astroturf campaigns" are defined as "a form of manufactured, deceptive and strategic top-down activity on the Internet initiated by political actors that mimics bottom-up activity by autonomous individuals" (Kovic, M., Rauchfleisch, A., Sele, M., & Caspar, C. (2018) and Digital astroturfing in politics: Definition, typology, and countermeasures. *Studies in communication sciences, 18*(1), 69-85.).

46 Bradshaw, S., & Howard, P. N. (2018). Challenging truth and trust: A global inventory of organized social media manipulation. *Oxford Internet Institute*.

47 DiResta, R., Shaffer, K., Ruppel, B., Sullivan, D., Matney, R., Fox, R., ... & Johnson, B. (2019). The tactics & tropes of the Internet Research Agency. *New Knowledge Report for the U.S. Senate Select Committee on Intelligence.*

online channels. As new technologies such as large language models[48] and synthetic media[49] become widely available, the tactics used in inauthentic activity are evolving in sophistication and scale.[50] Consequently, ongoing research and surveillance are necessary to understand and address these threats effectively.[51] Researchers have identified reliable markers of inauthentic online activity, but not every campaign will look alike. Indeed, researchers have observed that platforms and adversaries co-evolve in a persistent arms race: as detection improves, manipulators adapt with more human-like timing, content, and networks.[52] Detecting manipulation is therefore a "never-ending battle" marked by shifting tactics and countermeasures.[53]

22. Empirical case studies show the arms race unfolding through sequential interventions and evasions. For example, as campaigns adapt to evade detection, researchers and platforms have shifted from single-account classifiers to unsupervised, multi-signal coordination analyses.[54] Recent frameworks therefore discover "coordination networks" from shared behavioral traces to surface groups rather than individuals.[55] Meanwhile, sophisticated campaigns explicitly optimize behaviors to evade detection via adversarial machine learning.[56] For example,

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48 "Large Language Models" (LLMs) can be described as large-scale deep learning models trained on large corpora of text that understand and generate human language (Naveed, H., Khan, A. U., Qiu, S., Saqib, M., Anwar, S., Usman, M., ... & Mian, A. (2025) and A comprehensive overview of large language models. ACM *Transactions on Intelligent Systems and Technology*, 16(5), 1-72.).

49 "Synthetic Media" is "an umbrella term for video, image, text, or audio that has been generated in whole or partly by artificial intelligence (AI) algorithms" (Digital Regulation Cooperation Forum (2024). *The Future of Synthetic Media*. London: DRCF.).

50 Nimmo, B., & Flossman, M. (2024). *Influence and cyber operations: An update*. OpenAI.

51 DiResta, R., Shaffer, K., Ruppel, B., Sullivan, D., Matney, R., Fox, R., ... & Johnson, B. (2019). The tactics & tropes of the Internet Research Agency. *New Knowledge Report for the U.S. Senate Select Committee on Intelligence.*

52 Ferrara, E., Varol, O., Davis, C., Menczer, F., & Flammini, A. (2016). The rise of social bots. *Communications of the ACM, 59*(7), 96–104.

53 Cresci, S. (2020). A decade of social bot detection. *Communications of the ACM*, *63*(10), 72-83.

54 Pacheco, D., Hui, P. M., Torres-Lugo, C., Truong, B. T., Flammini, A., & Menczer, F. (2021). Uncovering coordinated networks on social media: methods and case studies. In *Proceedings of the international AAAI conference on web and social media* (Vol. 15, pp. 455-466).

55 Pacheco, D., Hui, P. M., Torres-Lugo, C., Truong, B. T., Flammini, A., & Menczer, F. (2021). Uncovering coordinated networks on social media: methods and case studies. In *Proceedings of the international AAAI conference on web and social media* (Vol. 15, pp. 455-466).

56 "Adversarial Machine Learning" is "a subfield of computer security interested with the study of machine learning systems in the presence of adversaries" (Papernot, N. (2021). Adversarial machine learning. In *Encyclopedia of Cryptography, Security and Privacy* (pp. 1-4). Berlin, Heidelberg: Springer Berlin Heidelberg.).

evolutionary and reinforcement-learning approaches[57] have synthesized bots that escape state-of-the-art detectors and learn policies to maximize influence while minimizing detection risk, further escalating the cat-and-mouse cycle.[58]

B. Identifying Inauthentic Activity

23. Despite the evolving challenges, researchers have studied the patterns of social bots and identified several relatively reliable author and message characteristics indicative of inauthentic behavior. Using author metadata and behavior, researchers have found that posting entropy and circadian rhythms, volume bursts, account age, follower/following ratios, and client/app usage have discriminated humans, bots, and "cyborgs."[59] Network position and tie patterns[60] (*e.g.*, dense bot–bot clusters proximate to human hubs) also signal automation and coordination.[61] Multi-account "sockpuppetry" exhibits detectable traces across accounts operated by the same person, including their posting behavior, linguistic traits, and social network structure.[62] Field evidence from Reddit recruitment studies further documents substantial bot infiltration and

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57 "Evolutionary algorithms" (EA) is defined as "a class of stochastic search methods based on the principles of natural evolution," while "Reinforcement learning" (RL) is distinguished from other methods by its learning from interactions with the environment, in which "the agent aims to maximize cumulative rewards by actively engaging with the environment and making optimal decisions" (Song, Y., et al. (2024). Reinforcement learning-assisted evolutionary algorithm: A survey and research opportunities. *Swarm and Evolutionary Computation*, *86*, 101517.).

58 See, for example, Le, T., Tran-Thanh, L., & Lee, D. (2022, April). Socialbots on fire: Modeling adversarial behaviors of socialbots via multi-agent hierarchical reinforcement learning. In *Proceedings of the ACM Web Conference 2022* (pp. 545-554); Cresci, S., Petrocchi, M., Spognardi, A., & Tognazzi, S. (2019, June). Better safe than sorry: an adversarial approach to improve social bot detection. In *Proceedings of the 10th ACM conference on web science* (pp. 47-56).

59 See, for example, Davis, C. A., Varol, O., Ferrara, E., Flammini, A., & Menczer, F. (2016, April). Botornot: A system to evaluate social bots. In *Proceedings of the 25th international conference companion on world wide web* (pp. 273-274); Chu, Z., Gianvecchio, S., Wang, H., & Jajodia, S. (2012). Detecting automation of twitter accounts: Are you a human, bot, or cyborg?. *IEEE Transactions on dependable and secure computing*, *9*(6), 811-824.

60 "Network position" and "tie patterns" are terms used in Network Science, with the former denoting the structural location of a node (actor) within a network, described by "its distance from an origin along each of several dimensions." The latter represents links between the actors and the recurring structural features of relationships (Brandes, U. (2016). Network positions. *Methodological Innovations*, *9*, 2059799116630650.).

61 Ferrara, E., Varol, O., Davis, C., Menczer, F., & Flammini, A. (2016). The rise of social bots. *Communications of the ACM, 59*(7), 96–104.

62 Kumar, S., Cheng, J., Leskovec, J., & Subrahmanian, V. S. (2017, April). An army of me: Sockpuppets in online discussion communities. In *Proceedings of the 26th international conference on world wide web* (pp. 857-866).

provides practical cues (*e.g.*, anomalous geolocation concentration) for author-level filtering.[63]

24. Additionally, bots have been found to disproportionately seed and amplify links from low-credibility sources; they target high-visibility users via replies or mentions, making them vulnerable to misinformation.[64] Many linguistic and content-based features help differentiate automated from human messages at scale. Researchers have found that bots typically recycle near-identical text templates. Sentiment extremity, lexical diversity, and message compositions, such as the share of retweets, replies, quotes, multimedia links and even the prevalence of URLs or hashtags, are also indicative of bot activities.[65]

25. Although single-account labeling can be challenging, aggregate analyses reliably reveal inauthentic influence on conversations.[66] During an orchestrated social campaign, aggregate indicators such as account age distribution, post/repost ratios, and synchronized timing could expose the effort even though any one account looked innocuous.[67] Many conversation-level markers of manipulation are also investigated by researchers: for example, coordinated actors often occupy privileged positions near cascade roots, post with shorter action delays, and alter cascade size/height distributions.[68] Dynamic studies of election periods identify coordinated communities whose time-varying synchronicity and membership churn correlate with abnormal diffusion and agenda setting.[69] Information-theoretic models likewise detect macro-level

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63 Mournet, A. M., & Kleiman, E. M. (2023). Internet-based mental health survey research: navigating internet bots on Reddit. *Cyberpsychology, Behavior, and Social Networking*, *26*(2), 73-79.

64 Shao, C., Ciampaglia, G. L., Varol, O., Yang, K. C., Flammini, A., & Menczer, F. (2018). The spread of low-credibility content by social bots. *Nature communications*, *9*(1), 4787.

65 Mouronte-López, M. L., Gómez Sánchez-Seco, J., & Benito, R. M. (2024). Patterns of human and bots behaviour on Twitter conversations about sustainability. *Scientific Reports*, *14*(1), 3223.

66 Martini, F., Samula, P., Keller, T. R., & Klinger, U. (2021). Bot, or not? Comparing three methods for detecting social bots in five political discourses. *Big data & society*, *8*(2), 20539517211033566; Grimme, C., Assenmacher, D., & Adam, L. (2018, May). Changing perspectives: Is it sufficient to detect social bots?. In *International conference on social computing and social media* (pp. 445-461). Cham: Springer International Publishing.

67 Grimme, C., Assenmacher, D., & Adam, L. (2018, May). Changing perspectives: Is it sufficient to detect social bots?. In *International conference on social computing and social media* (pp. 445-461). Cham: Springer International Publishing.

68 Cinelli, M., Cresci, S., Quattrociocchi, W., Tesconi, M., & Zola, P. (2022). Coordinated inauthentic behavior and information spreading on Twitter. *Decision Support Systems*, *160*, 113819.

69 Tardelli, S., Nizzoli, L., Tesconi, M., Conti, M., Nakov, P., Da San Martino, G., & Cresci, S. (2024). Temporal dynamics of coordinated online behavior: Stability, archetypes, and influence. *Proceedings of the National Academy of Sciences*, *121*(20), e2307038121.

perturbations to discussion dynamics attributable to political bots that micro-level classifiers might miss, offering a complementary early-warning layer for inauthentic influence at the conversation or campaign scale.[70]

C. How Inauthentic Online Activity Spreads

26. Part of what makes inauthentic manipulation campaigns so effective is the nature of ranking algorithms on social media platforms, which disproportionately weight early engagement with content. For example, experimental research shows that small, early vote shocks on Reddit have causal effects on a post's downstream rank and visibility, with researchers demonstrating that even a single early upvote can increase the probability of a post becoming popular by nearly 25%.[71] Conversely, even a single early downvote makes it more likely a post will end with a low score.[72] Because Reddit's ranking algorithm is driven by vote- and time-based scoring,[73] such early perturbations translate into materially greater (or lesser) visibility as items climb (or fall) in feeds. Similarly, on review platforms, a large randomized field experiment found that a single

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[70] Bulat, B., & Hilbert, M. (2025). Quantifying Bot Impact: An Information-Theoretic Analysis of Complexity and Uncertainty in Online Political Communication Dynamics. *Entropy*, *27*(6), 573.

[71] Specifically, Glenski, Johnston, and Weninger injected a single, random early vote and found that an early upvote increased the final score by approximately 11% on average and raised the probability of reaching a high score (≥2,000) by approximately 24.6%; conversely, an early downvote reduced final score by 5.15% on average. See, Weninger, T., Johnston, T. J., & Glenski, M. (2015, August). Random voting effects in social-digital spaces: A case study of reddit post submissions. In *Proceedings of the 26th ACM conference on hypertext & social media* (pp. 293-297).

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[73] Posts and comments on Reddit can be sorted in five ways: *Best*, *Hot*, *New*, *Top*, or *Rising*. *Best* is currently the default sorting option. While the exact algorithm is not published, Reddit notes that it uses "machine learning algorithms to personalize the order in which [users] see posts." Among the features considered by the *Best* algorithm is "the number of votes on the post." As Reddit explains, "the magic of Reddit is that it is primarily curated by redditors via voting. This remains at the core of how Reddit works" (https://www.reddit.com/r/blog/comments/o5tjcn/evolving_the_best_sort_for_reddits_home_feed/). Both the *Hot* and *Top* sorting options prioritize posts with high upvote counts as well. *Hot* "prioritizes recent posts that have been getting upvotes" and *Top* "prioritizes posts that have all-time high upvote numbers and comments" (https://support.reddithelp.com/hc/en-us/articles/23511859482388-Reddit-s-Approach-to-Content-Recommendations). Additionally, the default Reddit feed for logged-out users is the Popular feed, "which showcases the most popular recent posts on Reddit, as determined by net upvotes" (https://support.reddithelp.com/hc/en-us/articles/23511859482388-Reddit-s-Approach-to-Content-Recommendations).

artificial upvote increased the final rating of a comment by ~32% on average.[74]

27. Other major social media platforms such as X [75] and TikTok [76] follow similar recommendation algorithms, which prioritize content that is likely to receive engagement from users of the platform. Indeed, research on Douyin (TikTok's sister app) describes Douyin's system as dividing users into "small batch buckets" and first testing new content in one small bucket, then expanding to larger buckets if metrics (views, likes, replays, shares, completion rate) meet a threshold, making initial engagement disproportionately consequential for downstream reach.[77]

28. In today's attention markets, most online information reaches audiences through ranking-and-recommendation systems that predict engagement and optimize the feed accordingly, meaning the architecture of discovery itself shapes diffusion. [78] Platforms operationalize this with large-scale machine-learning pipelines – for example, YouTube's two-stage recommender of candidate generation and deep ranking – so that a small fraction of items dominate visibility and cumulative watch time.[79] Twitter/X describes a "For You" stack that sources candidates, ranks them with learned models, then applies heuristics and filters before assembling the timeline, again privileging material most likely to elicit interaction.[80] Facebook's

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74 Muchnik, Lev, Sinan Aral, and Sean J. Taylor. "Social influence bias: A randomized experiment." *Science* 341.6146 (2013): 647-651.

75 https://github.com/twitter/the-algorithm. X explains that its algorithm is trained to "optimize for positive engagement (e.g., Likes, Retweets, and Replies)" (https://blog.x.com/engineering/en_us/topics/open-source/2023/twitter-recommendation-algorithm).

76 https://support.tiktok.com/en/using-tiktok/exploring-videos/how-tiktok-recommends-content. For example, TikTok's "Friends Tab" prioritizes "number of likes and comments on a video" when determining what videos to display to a user and it's algorithm also heavily weights accumulated likes when assessing what comments to display to a user.

77 Zhao, Z. (2021). Analysis on the "Douyin (Tiktok) Mania" phenomenon based on recommendation algorithms. In *E3S Web of Conferences* (Vol. 235, p. 03029). EDP Sciences.

78 See, for example, Carnovalini, F., Rodà, A., & Wiggins, G. A. (2025). Popularity Bias in Recommender Systems: The Search for Fairness in the Long Tail. *Information*, *16*(2), 151; Klimashevskaia, A., Jannach, D., Elahi, M., & Trattner, C. (2024). A survey on popularity bias in recommender systems. *User Modeling and User-Adapted Interaction*, *34*(5), 1777-1834; Chaney, A. J., Stewart, B. M., & Engelhardt, B. E. (2018, September). How algorithmic confounding in recommendation systems increases homogeneity and decreases utility. In *Proceedings of the 12th ACM conference on recommender systems* (pp. 224-232).

79 Covington, P., Adams, J., & Sargin, E. (2016, September). Deep neural networks for youtube recommendations. In *Proceedings of the 10th ACM conference on recommender systems* (pp. 191-198).

80 https://blog.x.com/engineering/en_us/topics/open-source/2023/twitter-recommendation-algorithm/; https://github.com/twitter/the-algorithm/.

News Feed illustrates how editorial choices inside ranking systems alter diffusion paths: in 2018 it shifted to prioritize "meaningful social interactions," explicitly reweighting what rises in users' feeds.[81]

29. Against this backdrop, both human and automated behavior help low-quality or manipulative content travel.[82] Large-scale observational work shows false news on Twitter/X spreads "farther, faster, deeper, and more broadly" than true news, a pattern attributable primarily to human resharing dynamics amplified by novelty.[83] Social bots can then add leverage at key moments: they disproportionately boost low-credibility links in the earliest phases of diffusion and target high-follower accounts via replies and mentions, seeding the conditions for larger human cascades.[84]

30. Aggregators and search engines further mediate attention by concentrating traffic flows, which can magnify the reach of narratives that achieve initial traction.[85] Natural-experiment evidence from the 2014 shutdown of Google News in Spain indicates that removing an aggregator reduced overall news consumption and disproportionately hurt lower-ranked or local outlets, underscoring how aggregation can expand readership beyond entities with established direct audiences.[86] Large-scale audits show that Google's *Top Stories* (a canonical aggregator surface embedded in search) draws traffic from a relatively narrow set of outlets, demonstrating how such modules can steer attention and thereby determine which narratives scale.[87] A growing scientific literature links these curation dynamics to the spread and persistence of false or low-

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81 https://about.fb.com/news/2018/01/news-feed-fyi-bringing-people-closer-together/.

82 Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *science*, *359*(6380), 1146-1151.

83 Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *science*, *359*(6380), 1146-1151.

84 Shao, C., Ciampaglia, G. L., Varol, O., Yang, K. C., Flammini, A., & Menczer, F. (2018). The spread of low-credibility content by social bots. *Nature communications*, *9*(1), 4787.

85 Athey, S., Mobius, M., & Pal, J. (2021). *The impact of aggregators on internet news consumption* (No. w28746). National Bureau of Economic Research.

86 Athey, S., Mobius, M., & Pal, J. (2021). *The impact of aggregators on internet news consumption* (No. w28746). National Bureau of Economic Research; Calzada, J., & Gil, R. (2020). What do news aggregators do? Evidence from Google News in Spain and Germany. *Marketing Science*, *39*(1), 134-167.

87 Trielli, D., & Diakopoulos, N. (2019, May). Search as news curator: The role of Google in shaping attention to news information. In *Proceedings of the 2019 CHI Conference on human factors in computing systems* (pp. 1-15).

credibility claims: for example, controlled experiments show that biased ranking alone can shift preferences substantially because users trust and select higher-ranked results, underscoring how rank-based aggregation can move beliefs even without changing the underlying content.[88] Recent evidence also shows that using online search to "check" claims can increase belief in misinformation, consistent with users encountering search pages seeded by SEO-optimized[89] or void-exploiting[90] content.[91]

31. Once a message clears these platform gateways, agendas can "jump" across media sectors.[92] Intermedia and network-agenda-setting studies show that emphases originating in one part of the online ecosystem can shape what mainstream outlets cover and with what attributes, often with reciprocal or asymmetric flows.[93] From 2014 to 2016, a big-data analysis documented measurable agenda-setting power by "fake news" domains within the broader U.S. online mediascape, indicating that fringe producers can steer issue salience beyond their immediate audiences.[94] This inter-media amplification of disinformation often follows a staged pathway: seeded on small blogs, it "trades up the chain" through progressively larger outlets and influencer accounts, culminating in mainstream uptake.[95] Efforts to manipulate the visibility and spread of

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88 Epstein, R., & Robertson, R. E. (2015). The search engine manipulation effect (SEME) and its possible impact on the outcomes of elections. *Proceedings of the national academy of sciences*, *112*(33), E4512-E4521.

89 "Search engine optimization" (SEO) is "the mechanism by which a website or web page is improved to maximize the frequency and quantity of organic traffic from search engines," which can also be exploited to intentionally boost the visibility of certain webpages (Almukhtar, F., Mahmoodd, N., & Kareem, S. (2021). Search engine optimization: a review. *Applied computer science*, *17*(1), 70-80.).

90 Data voids are queries with insufficient legitimate content, leaving information gaps easily manipulated by malicious content producers (Cybersecurity and Infrastructure Security Agency. (n.d.). *Tactics of disinformation*. U.S. Department of Homeland Security. https://www.cisa.gov/sites/default/files/publications/tactics-of-disinformation_508.pdf).

91 Aslett, K., Sanderson, Z., Godel, W., Persily, N., Nagler, J., & Tucker, J. A. (2024). Online searches to evaluate misinformation can increase its perceived veracity. *Nature*, *625*(7995), 548-556.

92 Harder, R. A., Sevenans, J., & Van Aelst, P. (2017). Intermedia agenda setting in the social media age: How traditional players dominate the news agenda in election times. *The international journal of press/politics*, *22*(3), 275-293.

93 Su, Y., & Xiao, X. (2024). Intermedia attribute agenda setting between the US mainstream newspapers and Twitter: a two-study analysis of the paradigm and driving forces of the agenda flow. *Journalism & Mass Communication Quarterly*, *101*(2), 451-476; Vargo, C. J., & Guo, L. (2017). Networks, big data, and intermedia agenda setting: An analysis of traditional, partisan, and emerging online US news. *Journalism & Mass Communication Quarterly*, *94*(4), 1031-1055.

94 Vargo, C. J., Guo, L., & Amazeen, M. A. (2018). The agenda-setting power of fake news: A big data analysis of the online media landscape from 2014 to 2016. *New media & society*, *20*(5), 2028-2049.

95 Marwick, A., & Lewis, R. (2017). Media manipulation and disinformation online. *New York: Data & Society Research Institute*, *359*, 1146-1151.

content can accelerate this process.

32. These cross-platform pathways are reinforced by audience behavior: just over half of U.S. adults report getting news at least sometimes from social media, and one-in-five now say they regularly get news from social-media "news influencers," creating non-editorial gateways through which coordinated campaigns can disseminate.[96]

33. Putting the pieces together, inauthentic operators typically seed and/or amplify narratives where ranking systems are most sensitive to fresh engagement; orchestrate synchronized activity (often with a bot-human mix) to trigger early visibility; benefit from aggregator and search referral once signals accumulate; and then "trade up the chain" via influencers and journalistic pickup, moving from niche online spaces into mainstream coverage and back again through social loops.[97] Conversely, inauthentic operators may instead suppress content through the use of dislikes or downvotes, signaling to algorithms and aggregators that the content is of low quality and/or interest. Especially when applied early on, such coordinating downvoting can reduce the ranking of content enough to make it nearly invisible.[98]

D. The Impact of Inauthentic Online Activity on Authentic Online Activity

34. Coordinated seeding and/or amplifying primes ordinary users to join in, because visible social cues reliably shape later user judgments and behavior through herding effects. As mentioned above, in a large randomized field experiment, prior up-votes on a social news site produced durable positive cascades in subsequent ratings, demonstrating social-influence bias

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96 https://www.pewresearch.org/journalism/fact-sheet/social-media-and-news-fact-sheet/; https://www.pewresearch.org/journalism/2024/11/18/americas-news-influencers/.

97 https://blog.x.com/engineering/en_us/topics/open-source/2023/twitter-recommendation-algorithm/; Shao, C., Ciampaglia, G. L., Varol, O., Yang, K. C., Flammini, A., & Menczer, F. (2018). The spread of low-credibility content by social bots. *Nature communications*, *9*(1), 4787; Athey, S., Mobius, M., & Pal, J. (2021). *The impact of aggregators on internet news consumption* (No. w28746). National Bureau of Economic Research; Marwick, A., & Lewis, R. (2017). Media manipulation and disinformation online. *New York: Data & Society Research Institute*, *359*, 1146-1151; Harder, R. A., Sevenans, J., & Van Aelst, P. (2017). Intermedia agenda setting in the social media age: How traditional players dominate the news agenda in election times. *The international journal of press/politics*, *22*(3), 275-293.

98 Jeong, J., Kang, J. H., & Moon, S. (2020, May). Identifying and quantifying coordinated manipulation of upvotes and downvotes in Naver News comments. In *Proceedings of the International AAAI Conference on Web and Social Media* (Vol. 14, pp. 303-314).

that can steer collective evaluations independent of intrinsic content quality.[99]

35. Once a narrative is visibly active, genuine users often take over its propagation by producing commentary, memes, and paraphrases that extend reach and lifespan.[100] Cross-platform trace studies show that memes originating in fringe communities are repeatedly remixed and re-posted as they travel into larger social networks, with user remakes and derivatives acting as carriers that broaden exposure beyond the original seed audiences.[101] Inauthentic actors also catalyze real user participation by manufacturing contention that invites "authentic" debate: for example, during the U.S. vaccine controversy, accounts linked to Russian trolls and sophisticated bots posted about vaccination at significantly higher rates than typical users and adopted opposing stances to create false equivalence, which drew genuine users into argument and eroded perceived consensus.[102] As ordinary participants respond and counter-respond, the conversation volume becomes increasingly human, even though its trajectory was set by the initial coordinated stimulation.[103]

36. In this way, inauthentic information operates as participatory, crowd-supported work: authentic users help build and refine alternative narratives by collecting "evidence" and debating interpretations, thereby sustaining campaigns that blend orchestrated agents with organic crowds.[104] Once ordinary users dominate a thread, its visibility and durability largely reflect path-

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99 Muchnik, L., Aral, S., & Taylor, S. J. (2013). Social influence bias: A randomized experiment. *Science*, *341*(6146), 647-651.

100 See, for example, Friggeri, A., Adamic, L., Eckles, D., & Cheng, J. (2014, May). Rumor cascades. In *proceedings of the international AAAI conference on web and social media* (Vol. 8, No. 1, pp. 101-110); Grinberg, N., Joseph, K., Friedland, L., Swire-Thompson, B., & Lazer, D. (2019). Fake news on Twitter during the 2016 US presidential election. *Science*, *363*(6425), 374-378; Cheng, J., Bernstein, M., Danescu-Niculescu-Mizil, C., & Leskovec, J. (2017, February). Anyone can become a troll: Causes of trolling behavior in online discussions. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing* (pp. 1217-1230).

101 Zannettou, S., Caulfield, T., Blackburn, J., De Cristofaro, E., Sirivianos, M., Stringhini, G., & Suarez-Tangil, G. (2018, October). On the origins of memes by means of fringe web communities. In Proceedings of the Internet Measurement Conference 2018 (pp. 188-202).

102 Broniatowski, D. A., Jamison, A. M., Qi, S., AlKulaib, L., Chen, T., Benton, A., ... & Dredze, M. (2018). Weaponized health communication: Twitter bots and Russian trolls amplify the vaccine debate. *American journal of public health*, *108*(10), 1378-1384.

103 Broniatowski, D. A., Jamison, A. M., Qi, S., AlKulaib, L., Chen, T., Benton, A., ... & Dredze, M. (2018). Weaponized health communication: Twitter bots and Russian trolls amplify the vaccine debate. *American journal of public health*, *108*(10), 1378-1384.

104 Starbird, K., Arif, A., & Wilson, T. (2019). Disinformation as collaborative work: Surfacing the participatory nature of strategic information operations. *Proceedings of the ACM on human-computer*

dependent effects from early coordinated seeding which created initial signals and cross-platform exposure that set the trajectory.[105]

VI. DEFENDANTS' ALLEGED CAMPAIGN

37. In this section, I outline the details of the alleged campaign as it was described in materials produced in this matter. I understand from counsel that the alleged inauthentic campaign began in August 2024.[106] Additionally, I understand that on August 2, 2024, the Wayfarer Defendants conveyed a series of "key messaging points" regarding (1) positive online discussion of Mr. Baldoni and (2) negative online discussion of Ms. Lively.[107] In a "Scenario Planning" document that was circulated on August 2, the following topics were outlined as "key messaging points":

- **Pro-Baldoni:** Mr. Baldoni's "stellar reputation" in the industry, his track record of advocating for women in Hollywood, the "Man Enough" podcast and its role in creating a safe and encouraging environment to discuss gender roles, and Mr. Baldoni's attempts to foster a "kind, safe, creative environment on-set" during a tumultuous period, and "positive stats re JB's career."[108]

- **Anti-Lively:** Ms. Lively's "takeover" of *It Ends With Us* and the resulting loss of jobs for production members, her attempts to rely on Mr. Reynolds' to create a "power imbalance" when she did not get her way, Ms. Lively's "less than favorable" existing reputation among members of the entertainment industry, and Ms. Lively's attempts to "bully" her way into acquiring the rights to *It Ends With Us.*[109]

38. The document also discussed other anti-Lively messaging, such as Ms. Lively's "weaponization of feminism" along with people in her circle (specifically, Taylor Swift).[110]

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interaction, *3*(CSCW), 1-26.

105 See, for example, Muchnik, L., Aral, S., & Taylor, S. J. (2013). Social influence bias: A randomized experiment. *Science*, *341*(6146), 647-651; Zannettou, S., Caulfield, T., Blackburn, J., De Cristofaro, E., Sirivianos, M., Stringhini, G., & Suarez-Tangil, G. (2018, October). On the origins of memes by means of fringe web communities. In *Proceedings of the internet measurement conference 2018* (pp. 188-202); Broniatowski, D. A., Jamison, A. M., Qi, S., AlKulaib, L., Chen, T., Benton, A., ... & Dredze, M. (2018). Weaponized health communication: Twitter bots and Russian trolls amplify the vaccine debate. *American journal of public health*, *108*(10), 1378-1384.

106 Second Amended Complaint ¶¶ 194, 224, 226.

107 Second Amended Complaint, Exhibit D.

108 Second Amended Complaint, Exhibit D.

109 Second Amended Complaint, Exhibit D.

110 Second Amended Complaint, Exhibit D.

39. On August 7, Katherine (Katie) Case, Vice President at TAG PR,[111] sent an email with the subject line: "Social / Digital Mitigation / Remediation." The email described a plan consisting of "boosting SEO efforts and updating with new content to enforce SEO efforts, **monitoring and directly influencing forums that are working against Justin and Wayfarer to adjust the narrative in real time**, and collate assets and background to work in conjunction with Jen and her team. as well as TAG PR" (emphasis added).[112] Also included in the email is a list of "specific efforts," which are as follows (emphasis added throughout):

- Monitor and report forums, threads, sites, links, and more that are working against Wayfarer Studios, Justin, and the overall narrative, as well as derogatory comments.
- Leverage relationships with Discord, Reddit, X, IG, TikTok, YouTube, etc. to expose behavior of Blake and other parties, both current and past, and **engage directly with communities to adjust or influence the conversations taking place in real time**.
- Utilize CTR [click through rate] manipulation and contextual links to push up positive PR to change subject matter opinion on the first page of Google.
- Work to remove links that are harmful to Wayfarer Studios, Justin, and the narrative alongside the appropriate teams.
- Disavow and report outdated or cached non-relevant links, and cleanup spam and/or negative links that are ranked within the SERPs as needed.
- **Properly and strategically monitor damaging Reddit/Subreddits, X, Discord, etc. — including threads related to concerning opposition and manage the narrative**. This can be done with legacy admin for each platform. As part of this, expert admins will also monitor and protect peripheral elements like Wikipedia, fan pages, and more to ensure threads and narratives are handled appropriately.
- Actively sway the algorithm with one SEO charged hub/site, created and overseen by the team.
- **Taking down full Reddit and all social accounts as needed**.

111 Deposition of Katherine Case, 32:6-9.

112 ABEL_000005094 (emphasis added).

- **Organically engaging with audiences in the right way, starting threads with theories the team approves of, and asking questions that no longer place Wayfarer and Justin on the back foot**.

- Changing the overall narrative and helping keep it on track.[113]

40. An earlier draft of the proposed campaign, written by Ms. Nathan, was shared with Ms. Case in a text message exchange on August 7, 2024. In that exchange, Ms. Nathan described the campaign as follows:

> "30k/monthly for 3 month minimum…properly and strategically monitor damaging reddit/subreddit, X, discord, etc threads related to concerning opposition and **manage the narrative (this can only be done with legacy admin for each platform - they work for us)** This will also put our most seasoned admin editors on other peripheral elements like Wikipedia and fan pages to manage the threads and narrative. Again, the real value is when you can actively sway the algorithm with one SEO charged hub/site; however, there is significant leverage without that if we get started soon and can start planting eyes on each thread" (emphasis added).[114,115]

41. Ms. Nathan later remarked that "They need the site for SEO period ... however, for 30k/month they can do the basic Reddit/X/seeding and manipulating."[116]

42. When drafting the proposed campaigns, Defendants discussed the importance of discretion when executing the campaign. In her August 7, 2024 message, Ms. Case noted that "the integral part here is to execute all without fingerprints,"[117] and in the August 7, 2024 text message exchange, Ms. Nathan described that "all of this will be most importantly untraceable."

43. Documents from discovery and deposition testimony provide me with insight into multiple of the specific techniques discussed by the Defendants. In a text message to Mr. Baldoni, Ms. Nathan suggested that the digital team responsible for the campaign may be using

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113 ABEL_000005094.

114 KCASE-000004802 at 4804.

115 I understand that Mr. Wallace ultimately was engaged and paid for the services referenced. STREET 1.000007 ("He is aware we are going for their Quote two option for $30,000 PM for 3 months."); Deposition of Jed Wallace (Oct. 9, 2025), 81:19-23 ("Q. Okay. Did you receive three payments from this client for your services? A. I did. Q. In the amount of $90,000 in total? A. Yes.").

116 KCASE-000004802 at 4804.

117 ABEL_000005094

sophisticated techniques ("AI platforms and Google Analytics") that are not "obvious" to identify. Specifically, in an August 18, 2024 text exchange, Mr. Baldoni asked if the TAG PR team uses bots to plant comments and Ms. Nathan responded as follows:

> "I can fully fully [sic] confirm we do not have bots. This is not also what we do- bots look fake to anyone.
>
> The other team is doing something very specific in terms of what they do. I know Jamey & Jed connected on this.
>
> Bots and fan accounts also run pretty organically by now with all the Al platforms and Google Analytics itself - there is no bot army that's a myth these days.
>
> Any digital team these days is far more intelligent to utilise something so obvious."[118]

44. Additionally, in a text message to a separate client, Jed Wallace, one of the persons I understand was responsible for implementing the Defendants' digital campaign, sent the client a list of Reddit links and described how he could "throw a ton of upvotes at the stuff" that is supportive of his client and that he could "downvote everything else that's acting as a drag on him as part of our mandate."[119]

45. Documents also suggest that boosting, suppressing, and generating content may have been part of the campaign. Following the onset of the campaign, TAG PR monitored online discussion of both Mr. Baldoni and Ms. Lively. In some instances, TAG PR staff would identify individual posts that should be "boosted" if they were a fit with the campaign's objectives. For example, on August 18, Mr. Baldoni shared links to several TikTok posts with TAG PR and noted that they were "to boost."[120] TAG PR confirmed that they would "let digital know."[121] Two of these posts praised Mr. Baldoni, whereas the third criticized Ms. Lively's handling of the themes of domestic violence in her promotion of *It Ends With Us.*[122] On August 10, TAG PR discussed

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118 JONESWORKS_00013647 at 13648.
119 STREET 3.000204 at 205. The document is marked attorneys' eyes only.
120 JONESWORKS 00013647 at 648.
121 JONESWORKS 00013647 at 648.
122 JONESWORKS 00013647 at 648. See, https://www.tiktok.com/@nolasoccermom/video/7403850219294657835;

boosting other social media content ("would be great for the digital team to boost this in any way possible…")[123] and media coverage that was favorable to Mr. Baldoni ("sharing this here too in case digital has an idea of how to amplify").[124] Similarly, on August 14, a TAG PR employee shared a link to a resurfaced 2016 interview of Ms. Lively by Kjersti Flaa (the "little bump" interview) and another noted "We should send to Jed, right?"[125]

46. TAG PR staff also identified content that should be "buried." For example, TAG PR discussed efforts to suppress unwanted coverage of Mr. Baldoni in a text message exchange discussing an August 9, 2024 Daily Mail article[126] that included negative coverage of Mr. Baldoni. In this exchange Ms. Case wrote, "Thank the lord for social and digital mitigation lol" after members of the TAG PR team informed her that the article had generated limited engagement.[127] Approximately two hours later and in a separate text exchange, Ms. Case wrote "I wonder if they had Jed suppress the link because I can't even find that story."[128]

47. TAG PR also discussed individual comments on posts that discuss Mr. Baldoni and/or Ms. Lively. For example, in a text message exchange on August 6, Ms. Case was sent a comment on a TikTok post about *It Ends With Us* that was supportive of Mr. Baldoni. In response, she stated "ok so the comments are working excellent," "that's all us lol," and sent a winking face emoji when discussing other comments of a similar nature.[129] In a similar exchange a few days later on August

https://www.tiktok.com/@dietcokel0v3r/video/7404509846566964523; https://www.tiktok.com/@thickjewishgirl/video/7404186295993453870.

123 KCASE-000001540 at 542.

124 KCASE-000001540 at 542. The article that was requested to be "amplified" was https://www.hollywoodreporter.com/movies/movie-features/justin-baldoni-it-ends-with-us-interview-ryle-pressure-1235970799/.

125 KCASE-000003354 at 3361.

126 The article being discussed is an August 9, 2024 article published by the Daily Mail titled, "Disturbing TRUTH behind why Blake Lively and her It Ends With Us stars are feuding with Justin Baldoni." (https://www.dailymail.co.uk/tvshowbiz/article-13727789/it-ends-blake-lively-justin-baldoni-feud.html). The article begins by claiming that "Justin Baldoni was 'chauvinistic' and 'borderline abusive' on the set of It Ends with Us - and sparked fury over his refusal to 'consider' the perspective of costar Blake Lively's character while filming scenes that depicted abuse, insiders have claimed."

127 KCASE-000000174 at 178-181.

128 KCASE-000001093 at 1096. Ms. Case does not describe what article is possibly being suppressed in this text exchange, though she does reference a Daily Mail article earlier in the exchange (see, KCASE-000001093 at 1095).

129 KCASE-000003856 at 859.

9, Ms. Case noted, "that's us lol," when discussing comments on a post defending Mr. Baldoni.[130] In response, another TAG PR employee stated that they "yet again […] fell for it" to which Ms. Case responded "lolol we all do."[131] The same TAG PR employee also responded to Ms. Case's message saying, "I'll stop being naive eventually" and Ms. Case replied, "It took me YEARS don't worry lol."[132]

48. Taken together, as noted, these documents offer insight into the potential scope of the alleged campaign, including the platforms targeted, the messages that may have been elevated or suppressed, the techniques relied on, and, in some cases, even individual posts that may have been of particular interest to the alleged campaign.

VII. CASE ASSESSMENTS OF INAUTHENTIC ACTIVITY

49. My assessment of the Defendant's alleged inauthentic campaign consists of three parts. First, I assess whether there is evidence of the manipulation of like counts and comment content on TikTok videos about Ms. Lively. Second, I assess whether there is evidence of upvote and downvote manipulation on Reddit. Third, I assess whether there is evidence of manipulation associated with the YouTube "little bump" video. I have focused on these case studies without the intent that this analysis be exhaustive or exclusive of other indicators of inauthentic activity or a campaign within the period.

A. TikTok Analysis

50. TikTok is a popular social media app owned by the Chinese company ByteDance. The app is primarily based around the sharing of short-form video content. TikTok users can, among other things, like, comment on, and share videos posted to the app. As discussed above, documents produced by the Defendants include discussions of TikTok posts about Ms. Lively and Mr. Baldoni.[133] To assess whether there is evidence of manipulation on TikTok, I collected a dataset of videos from TikTok using Open Measures, which is a tool that enables researchers to track

130 KCASE-000000174 at 185.
131 KCASE-000000174 at 186.
132 KCASE-000000174 at 186 and 187.
133 ABEL_000005094. See also, KCASE-000000174 at 185; JONESWORKS_00013647 at 648; NATHAN_000002694.

social media discussion on a range of social media platforms.[134] The dataset consists of posts returned by searches of the following hashtags: #blakelively, #justinbaldoni, #itendswithus, and #itendswithusmovie.[135]

51. I analyzed videos that were posted in July and August 2024.[136] In total, the Open Measures database contained 157 videos from July 2024 and 1,704 videos from August 2024, which form the basis for my analysis (I refer to this as the "TikTok Dataset").[137] To supplement the information returned by Open Measures, I also collected information on the number of views, video likes, comments, and Top-Comment[138] likes for these videos.[139]

52. To assess whether there is evidence of manipulation present among this set of videos, I analyzed patterns in engagement metrics on posts and comments. Specifically, I calculated the proportion of the number of likes on the top comment vs. the number of likes on each video (the "Top-Comment Share"). Researchers have found that deviations in engagement ratios such as this can act as reliable signals of potentially manipulated activity.[140]

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134 https://openmeasures.io/.

135 To generate its TikTok database, Open Measures performs daily searches of requested hashtag and collects data from posts returned by the searches.

136 Data was exported from the Open Measures platform on August 12, 2025.

137 The raw data collected from Open Measures is included in the "Posts Dataset" tab in the "TikTok Dataset" spreadsheet included in my backup data.

138 I define the "top comment" as the top-level comment that generated the greatest number of likes on a given post.

139 I relied on an automated process to collect public TikTok comments and comment metrics associated with the July (n=157 videos) and August (n=1,704 videos) TikTok posts returned by my Open Measures search. For each video, I opened the post, loaded approximately two screen-lengths of comments (by scrolling once), extracted visible comment "like" counts, and identified the single highest-liked comment among the loaded set. I also captured video-level metadata (e.g., likes, views, shares) and Top-Comment metadata (e.g., text, date, author). I then computed a Top-Comment like ratio = (top comment likes) / (video likes). The "Top-Comment" tab in the "TikTok Dataset" spreadsheet included in my backup data contains the raw data collected for my analysis. Videos that were unavailable/private at collection were excluded (233 videos in total) as were videos with zero comments or no viewable comments (40 videos in total).

140 For example, Yang et al. (2013) show that spam campaigns on Twitter often generate abnormal engagement signatures, including distorted ratios of retweets, follows, and other interactions that diverge from organic user patterns. (Yang, C., Harkreader, R., & Gu, G. (2013). Empirical evaluation and new design for fighting evolving twitter spammers. *IEEE Transactions on Information Forensics and Security*, *8*(8), 1280-1293.) Kirdemir et al. (2023) similarly find that inorganic boosting of YouTube content is detectable through anomalous correlations among engagement metrics (e.g., views, likes, and comments), which serve as hallmarks of coordinated inauthentic behavior. (Kirdemir, B., & Adeliyi, O. (2023, April). Towards Characterizing Coordinated Inauthentic Behaviors on YouTube. In *The 2nd Workshop on Reducing Online Misinformation through Credible Information Retrieval (ROMCIR 2022) held with the 44th European Conference on Information Retrieval (ECIR 2022)*. Jahn et al. (2023) demonstrate that clusters of accounts

53. I reviewed the Top-Comment for each post in the dataset and coded whether it expressed positive or negative sentiment toward Ms. Lively, positive or negative sentiment toward Mr. Baldoni, or neither.[141] Top-Comments from comments published in July 2024 had an average Top-Comment Share of 4.7%,[142] which is similar to the Top-Comment Share of comments that are pro-Lively or unsure/unrelated from August (5.8%). These figures offer a useful baseline measure of Top-Comment Share for comments that have no apparent connection to the campaign (either because they occurred before the alleged onset of the campaign or because the content does not relate to the "key messaging points" of the alleged campaign).

54. My analysis indicates that Top-Comments for videos in August[143] that were aligned with the "key messaging points" of the campaign (*i.e.,* they elevate negative content about Ms. Lively or positive content about Mr. Baldoni) consistently generated a higher Top-Comment Share than expected. Top-Comments that expressed negative sentiment toward Ms. Lively had an average Top-Comment Share of 21.6%, more than double the average for all Top-Comments from posts in August (9.2%), more than 3.5 times the average of "unsure/unrelated" Top-Comments, and more than 7 times the average of "pro-Lively" comments. Similarly, Top-Comments that expressed positive sentiment toward Mr. Baldoni also had a greater than average Top-Comment Share of 11.4%.[144] Both the anti-Lively and pro-Baldoni average comment shares are a statistically significant deviation from the mean,[145] suggesting there was a concerted effort to

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that produce anomalously high like activity relative to the baseline engagement are detectable through ratio analysis and clustering. (Jahn, L., Rendsvig, R. K., & Stærk-Østergaard, J. (2023). Detecting coordinated inauthentic behavior in likes on social media: Proof of concept. *arXiv preprint arXiv:2305.07350*.).

141 To assess inter-rater reliability, a second independent reviewer annotated a random sample of 300 comments from the dataset. The two reviewers' labels agreed on 80 percent of cases. An 80 percent concordance indicates a high level of consistency and provides confidence that the primary coding scheme was applied reliably (see the spreadsheet titled "TikTok - Sentiment Validation Sample" in my backup data).

142 While posts in my dataset are limited to videos posted in July and August, Top-Comments may be published any time after July. To ensure my analysis of data from July does not include content that could have been generated after the initiation of the digital campaign, my analysis compares comments with July timestamps and comments with timestamps from after July (unless otherwise noted). For my purposes, I considered a comment to be from July if (a) it was in response to a post published in July and (b) it has a timestamp from July. I considered a comment to be from "after July" if it has a timestamp from August onwards.

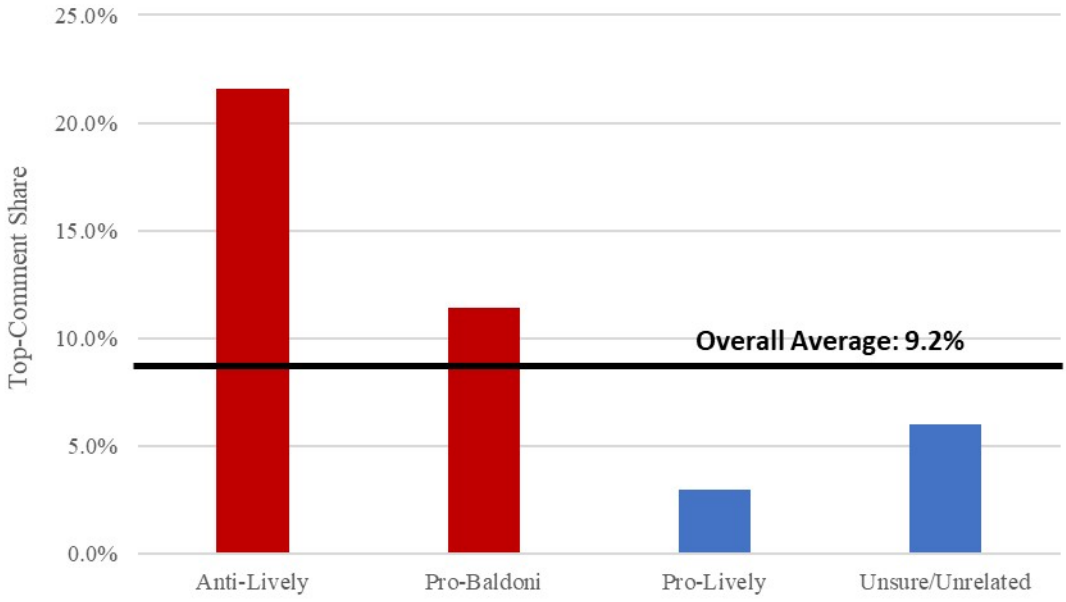
143 Unlike other analyses in this section, here I analyze comments to videos that were published in August.

144 In my review, I identified an insignificant number (n=2) of "anti-Baldoni" comments. Accordingly, I have grouped these into the "unsure/unrelated" category.

145 Two-sided Mann-Whitney U test: anti-lively vs unsure/unrelated: raw p=0.0000, corrected p=0.0000, significant=True; unsure/unrelated vs pro-baldoni: raw p=0.0000, corrected p=0.0000, significant=True.

seed and/or elevate these comments. **Figure 1** shows the average Top-Comment Share for posts published in August 2024 in the TikTok Dataset.

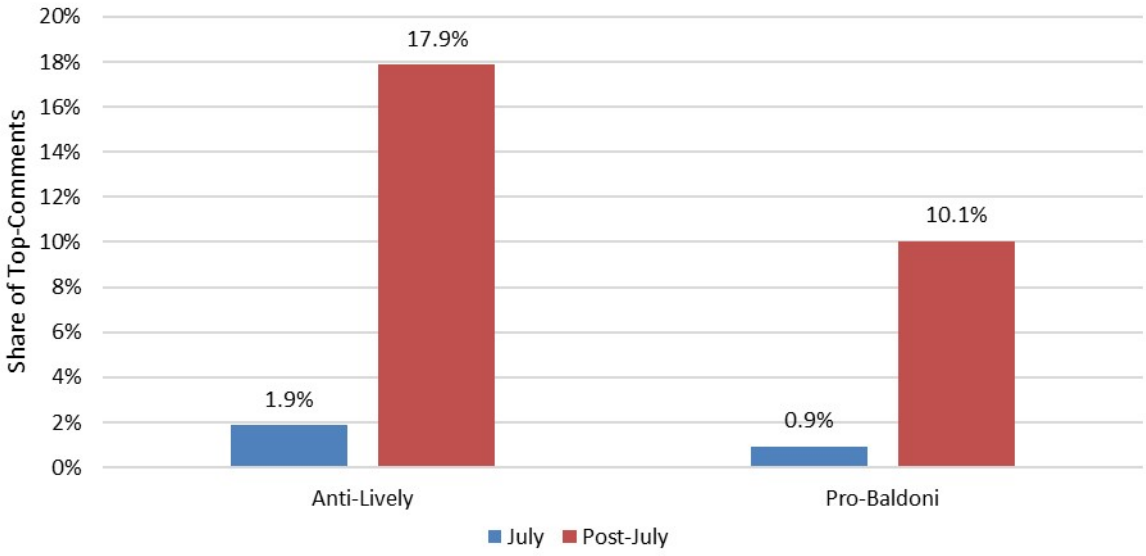
Figure 1. Average Top-Comment Share for August 2024 TikTok posts



55. I also compared the sentiment in comments with timestamps from before and after August, finding a striking difference between TikTok commentary and engagement on anti-Lively and pro-Baldoni Top-Comments. Anti-Lively Top-Comments represent 17.9% of all Top-Comments published after July. In contrast, they represent only 1.9% of Top-Comments published in July (shown in **Figure 2**).[146]

[146] I excluded from the denominator those videos that are unavailable or do not have viewable comments.

Figure 2. Prevalence of Anti-Lively and Pro-Baldoni sentiment in Top-Comments

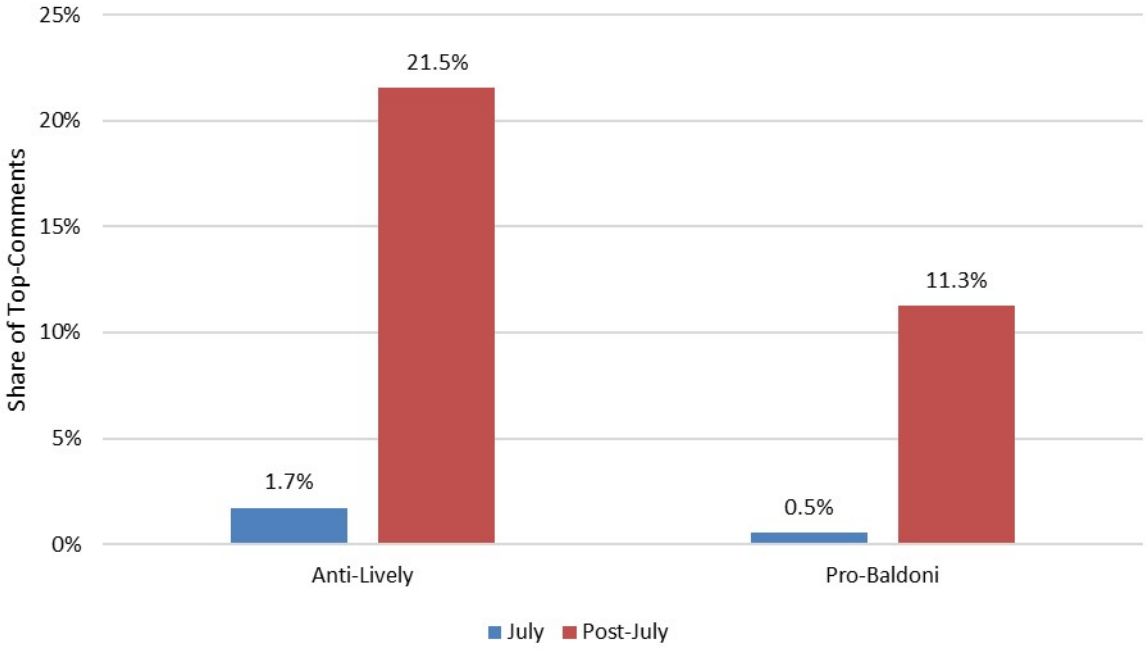


56. Engagement with anti-Lively Top-Comments published in July was also lower, with comments from this period averaging a Top-Comment Share of 1.7% as compared to 21.5% thereafter.[147] The same pattern holds for pro-Baldoni Top-Comments, which were both less prevalent in July (0.9% of July Top-Comments vs. 10.1% of August and later Top-Comments) and less engaged with (0.5% Top-Comment Share vs. 11.3%) (shown in **Figure 3**).[148]

147 There are only two anti-Lively Top-Comments from July.

148 There is only a single pro-Baldoni Top-Comment from July.

Figure 3. Average Top-Comment Share for Anti-Lively and Pro-Baldoni comments



57. Notably, the Top-Comment Share among comments that are pro-Lively or Unsure/Unrelated is largely consistent before and after July.

58. Remarkably, as shown in **Figure 4** below, nearly *all* the Top-Comments with the highest Top-Comment Share in the period starting August 2024 either disparage Ms. Lively or praise Mr. Baldoni.

Figure 4. Top ten most-liked comments on TikTok posts as a share of video likes

Comment Text	Comment Date	Video Likes	Top-Comment Likes	Top-Comment Share	Sentiment
Why is she saying so much yet nothing at all...[149]	2024-8-13	8,461	16,100	190.3%	Anti-Lively
Terrible acting, terrible scene, no surprises that Ryan Reynolds wrote this[150]	2025-1-16	1,477	2,056	139.2%	Anti-Lively
parker tried to diffuse the situation are y'all not seeing it[151]	2025-2-3	13,500	15,200	112.6%	Anti-Lively
The way my jaw dropped. You don't TALK about yourself as a crown straightener 😭[152]	2024-8-13	70,700	79,000	111.7%	Anti-Lively
Me in the group discussion pretending like I read the assigned reading 💀[153]	2024-8-11	42,900	45,500	106.1%	Anti-Lively
The amount of "I" & "me" is crazy in all her interviews[154]	2024-8-13	16,500	15,000	90.9%	Anti-Lively
I read the book and I must have missed this description of Lily. 🤨[155]	2024-8-29	283	253	89.4%	Anti-Lively
ETHEL CAIN DID NOT GET CANNIBALISED FOR THIS 😭😭😭[156]	2024-9-1	3,252	2,656	81.7%	Neither
Me writing my 12 page essay the night before[157]	2024-8-12	43,100	34,800	80.7%	Anti-Lively
I never had an opinion on Blake lively. After all her interviews, I don't like her. I don't like the way they're treating the director.Unfollowing, not talking to him, is immature.takes away from dv[158]	2024-8-9	3,371	2,527	75.0%	Anti-Lively

149 https://www.tiktok.com/@9honey/video/7400541442327727361
150 https://www.tiktok.com/@girlyclips.com/video/7402573190972575009
151 https://www.tiktok.com/@alfredodough/video/7403219053034130734
152 https://www.tiktok.com/@bustle/video/7400086628523347243
153 https://www.tiktok.com/@etalkctv/video/7401601483449404678
154 https://www.tiktok.com/@amworldwide/video/7402817857685359902
155 https://www.tiktok.com/@apnewsentertainment/video/7407845786697960746

59. Notably, included among the comments in Figure 4 are videos that are pro-Lively,[159] anti-Lively[160] and ambiguous,[161] which indicates that the elevated Top-Comment Share is not driven by alignment (or disagreement) with the sentiment of the video itself.

60. A detailed analysis of individual posts with elevated Top-Comment Shares also reveals seemingly coordinated activity among the most popular comments. For example, one post that Ms. Case discussed with other TAG PR employees[162] includes numerous comments that defend Mr. Baldoni, each of which have extremely high comment-shares (*i.e.,* they have abnormally high volumes of likes as compared to the post itself). This particular video was posted on August 9, 2024 and discusses an article from the Daily Mail that negatively describes Mr. Baldoni and his conduct on set.[163] As of the writing of this report, there are thirteen comments on the post that have received more than 100 likes, 11 of which have comment shares more than *double* the average share for a *Top*-Comment in our dataset.[164] Further, *every* comment with 100 or more likes expresses an opinion that is favorable toward Mr. Baldoni and/or negative toward Ms. Lively.

61. Notably, many of these comments express similar themes using similar language. For example, numerous comments refer to the article as a "hit piece", such as the following (emphasis added throughout):

- Aug 9, 2024: "**hit piece**, definitely trynna tarnish a great man." – 563 likes, 72.2% comment like share[165]

156 https://www.tiktok.com/@swiftieabood/video/7401255178361376017
157 https://www.tiktok.com/@cbsmornings/video/7400806313539718442
158 https://www.tiktok.com/@_nehajoy/video/7400522211192278314
159 *E.g.*, https://www.tiktok.com/@9honey/video/7400541442327727361.
160 *E.g.,* https://www.tiktok.com/@alfredodough/video/7403219053034130734.
161 *E.g.,* https://www.tiktok.com/@girlyclips.com/video/7402573190972575009.
162 KCASE-000000174 at 181. While the Top Comment Share of this post is extremely high, it was not captured in the initial Open Measures sweep of relevant TikTok posts and is therefore not included in Figure 4.
163 https://www.tiktok.com/@ruespeaks/video/7401238520183934250. The Daily Mail article referred to in the video is the same article that Ms. Case and other members of the TAG PR team were discussing when Ms. Case commented, "Thank the lord for social and digital mitigation lol." See, KCASE-000000174 at 182.
164 The video itself has 780 likes as of the writing of this report.
165 Comment by @nopeitsnotdemi on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

- Aug 9, 2024"Nothing adds up. He's the only one taking the promo seriously. Clearly a hit piece" – 272 likes, 34.9% comment like share[166]

- Aug 9, 2024: "This article is such a hit piece on him & his character. Reads as bought and paid for to specifically counter everything we've seen from Justin in the past." – 163 likes, 20.9 comment like share[167]

- Aug 9, 2024: "yeahhhh this is a hit piece. every single movie he has done he has done it for the message and the cause. everyone that knows him says he is nothing but a kind and gentle man." – 127 likes, 16.3% comment like share[168]

62. Other comments express similar sentiment, such as the following:

- Aug 10, 2024: "daily mail is THE most fraudulent and unreliable source for news 😭 like i would've been more inclined to trust u more if u used TMZ" – 219 likes, 28.1% comment like share[169]

- Aug 9, 2024: "It's from the Daily Mail so I'm not to believe it. 🤷‍♀️"– 1238 likes, 158.7% comment like share[170]

63. Similarly, other comments with elevated comment-share uniformly defended Mr. Baldoni and/or disparaged Ms. Lively, such as the following:

- Aug 9, 2024: "extras have come out and said he was the nicest on set. It doesn't make sense" - 1907 likes, 244.5% comment like share[171]

- Aug 9, 2024: "Extras have come out and said the complete opposite." – 348 likes, 44.6% comment like share[172]

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166 Comment by @hannahstump41 on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

167 Comment by @chelseavegam on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

168 Comment by @thepastylatina on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

169 Comment by @ashxig on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

170 Comment by @klaire_kane on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

171 Comment by @unavailabl3s on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

172 Comment by @s_celina on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

- Aug 9, 2024: "Blake got to choose all her own wardrobe…her husband was able to literally write whole scenes…" – 859 likes, 110.1% comment like share[173]

- Aug 10, 2024: "Didn't he specifically reach out to a DV nonprofit to make sure he was portraying and approaching the DV correctly?" – 528 likes, 67.7% comment like share[174]

- Aug 9, 2024: "than why is he the only one talking about the seriousness of the subject matter in interviews? Everyone else is promoting it as a romcom.why is there cross promotion with Wolverine?!?" – 119 likes, 15.3% comment like share[175]

- Aug 10, 2024: "this 💯 was planted by Blake Lively and Ryan Reynolds, lol" – 200 likes, 25.6% comment like share[176]

64. Another post that the Defendants discussed[177] describes Mr. Baldoni's conduct at the premiere of *It Ends With Us* as avoidant and suspicious, with 1,361 likes.[178] Here, again, the most liked comment is in support of Mr. Baldoni – "It's giving professionalism so that the drama doesn't take away from the movie."[179] This comment has a Top-Comment Share of 74.7%, which is more than eight times greater than the overall average.

65. There are numerous other examples of individual posts in the TikTok dataset that follow a similar pattern of an elevated Top-Comment Share going hand in hand with a consistently pro-Baldoni and/or anti-Lively sentiment in the comments. For instance, **Figure 5** below shows the comment section of one post with 34,700 likes.[180] On this post, the most liked comment has 25,900 likes, and there are six other comments that exceed the number of likes that would be considered average for a *Top*-Comment.[181] Each of these comments express "anti-Lively"

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173 Comment by @gibbonrcool2424 on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

174 Comment by @larkinmoira on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

175 Comment by @emma_stratton88 on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

176 Comment by @numinafeminae on @ruespeaks account. https://www.tiktok.com/@ruespeaks/video/7401238520183934250

177 KCASE-000000174 at 185.

178 https://www.tiktok.com/@sydneyrekaps/video/7401249240506191150

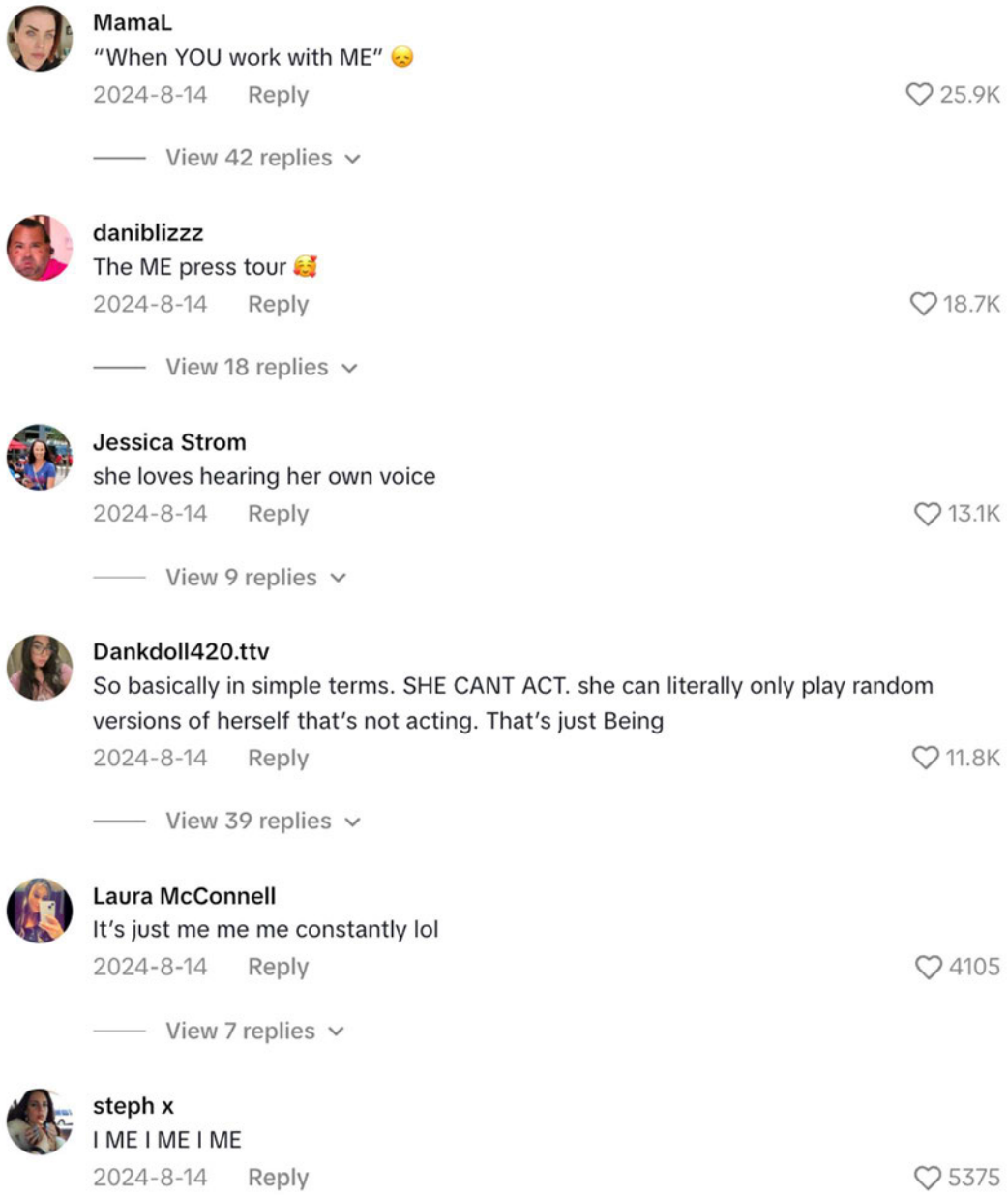
179 Comment by @lel_lel2226 on @sydneyrekaps post. https://www.tiktok.com/@sydneyrekaps/video/7401249240506191150

180 https://www.tiktok.com/@digitalspyuk/video/7402968876918607137

181 https://www.tiktok.com/@digitalspyuk/video/7402968876918607137

sentiment, often relying on strikingly similar language.

Figure 5. Most-liked comments on TikTok by @digitalspyuk[182]



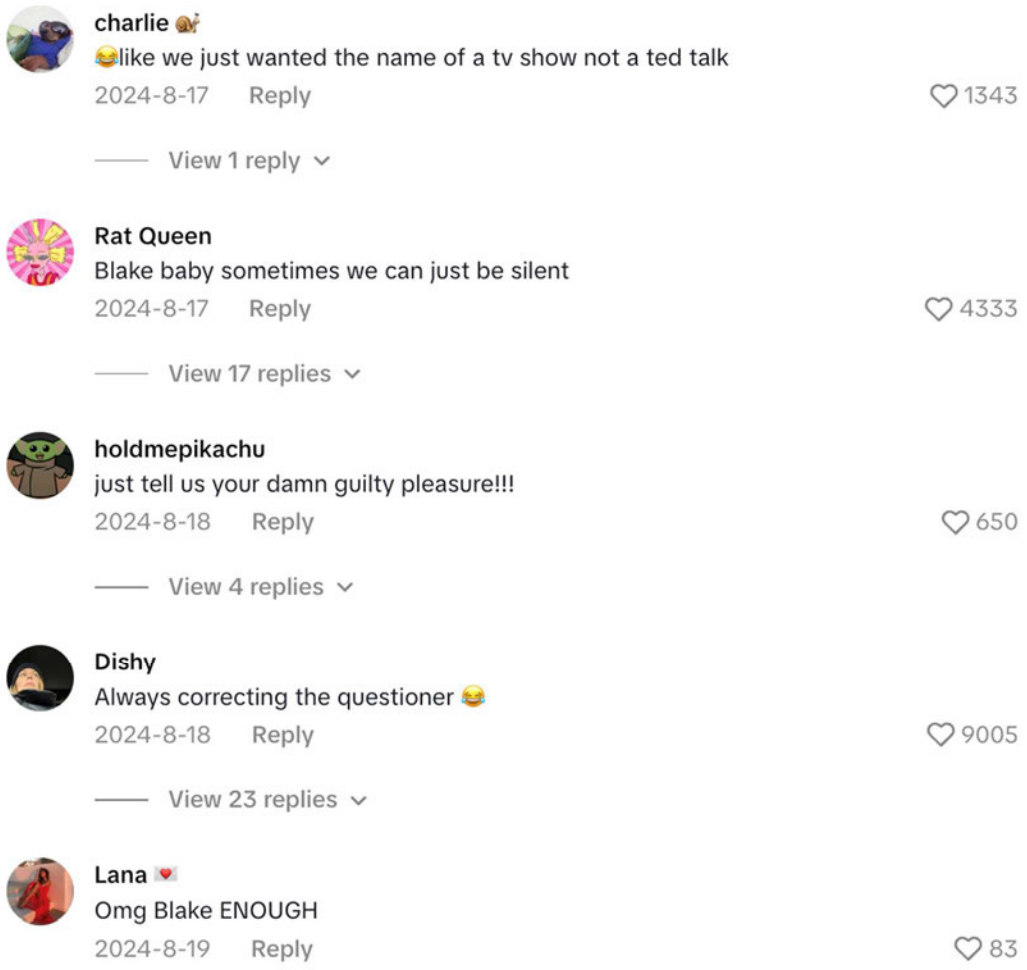
66. **Figure 6** below shows the comment section of another TikTok video with a highly elevated Top-Comment Share of 61.8%.[183] Here, again, comments with elevated Comment-Share are

[182] https://www.tiktok.com/@digitalspyuk/video/7402968876918607137

[183] The post has 14,600 likes, meaning an average Top-Comment Share would lead to the top comment having 1,343 likes. https://www.tiktok.com/@whowhatwear/video/7404191112778321194

consistently anti-Lively.

Figure 6. Most-liked comments on TikTok by @whowhatwear[184]



67. Taken together, these analyses strongly suggest that starting in August 2024 there was a coordinated effort on TikTok to seed and/or amplify comments that advanced narratives that were negative toward Ms. Lively, positive toward Mr. Baldoni, or both. Specifically, comments that advanced these narratives received significantly more likes than would be expected based on the popularity of the post they were attached to. Posts that the Defendants have admitted were the target of the alleged inauthentic campaign also displayed similar patterns of inauthenticity that were present across the broader TikTok dataset. Further, a review of

184 https://www.tiktok.com/@whowhatwear/video/7404191112778321194.

individual posts with abnormally high numbers of comment-likes demonstrates a suspicious pattern of repeated themes and language in comments.

B. Abnormal Comment Score Patterns on Reddit

i. Background on Reddit and r/Fauxmoi

68. Reddit is organized into communities, called *subreddits*. Subreddits are typically referred to by the characters "r/" followed by the name of the community (*e.g.*, r/announcements).[185] These communities are organized by subject matter, ranging from generic and popular topics (*e.g.*, r/funny, r/gaming, r/worldnews) to niche topics (*e.g.*, r/Ornithopter, r/ModernJazz). Subreddits are user-generated and user-moderated[186] and vary in terms of size and activity. The most popular subreddits can accumulate tens of millions of subscribers[187] and obscure ones may have no activity and only one subscriber (the creator of the subreddit).

69. Conversations on Reddit are structured around *posts* and *comments*. A post (also referred to as a submission) initiates conversations and consists of a piece of text, an image, a video, or a link. Unlike on X, Instagram, Facebook, or TikTok, posts are published on a Subreddit, rather than on a user's personal feed. In general, any Reddit users can submit a post to subreddits, although moderators can and do put limitations on this in some circumstances (*e.g.,* limiting posts to users with an existing history on the platform). Once a post is submitted, other users (including the posting user) can reply to a post by writing a comment.

70. In addition to posting and commenting, users on Reddit can also vote on posts. Voting on Reddit takes the form of "upvotes" and "downvotes." Posts and comments with the highest net score (the sum of upvotes minus downvotes)[188] are more likely to appear at the top of a subreddit

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185 Subreddits are assigned unique URLs on Reddit taking the following form: www.reddit.com/r/[subredditname]. The inclusion of "r/" is due to the website's design.

186 Moderators are users "who volunteer their time to help create, guide, and nurture Reddit's many communities." Moderators can, among other things, set community standards around acceptable content, ban users, and remove posts and comments. Moderators' powers are limited to the subreddits they moderate (https://support.reddithelp.com/hc/en-us/articles/204533859-What-s-a-moderator).

187 https://subranking.com/. When a user subscribes to a subreddit posts from that subreddit will appear in their Reddit feed.

188 Counts of upvotes and downvotes are not publicly accessible. Instead, data from Reddit show net scores. Net scores incorporate some "slight fuzzing" making it impossible to calculate exact upvote and downvote counts (https://www.theverge.com/2016/12/6/13862042/reddit-upvote-downvote-scoring-system-

or a thread and are, therefore, more visible to users active on the platform. Conversely, posts or comments with low a score are deemphasized by the platform, which makes them unlikely to be seen by many users. As described above, even a single upvote or downvote can have a significant effect on the ranking (and therefore, the visibility) of a post or comment.

71. r/Fauxmoi, which describes itself as "the cultural zeitgeist archivists," is the largest celebrity-focused subreddit on Reddit.[189] The subreddit was created on June 16, 2020, and currently has 4.4 million subscribers.[190]

ii. Comment Upvote Patterns on r/Fauxmoi

72. As mentioned above, one of the capabilities Mr. Wallace described in text messages is the ability to "throw a ton of upvotes" at specific pieces of content. In this section, I analyze the patterns in comment upvote and downvote activity observed in the r/Fauxmoi subreddit around content related to Ms. Lively generally, and the "Little Bump" interview in particular. The activity that I analyzed and observed collectively demonstrates evidence of artificial or manipulating activity.

73. My analysis is based on data collected from Project Arctic Shift, a large-scale public archiving project that preserves monthly Reddit activity[191] and that is regularly relied on by academic researchers in my field. Using data collected from Arctic Shift, I analyze the number of posts and comments, and the combined score generated by posts and comments, published on the r/Fauxmoi subreddit between May 1, 2024 and August 31, 2024.[192]

74. **August 14 Comment Upvotes.** **Figure 7** shows the daily combined comment scores[193] for

recalculation).

189 https://www.reddit.com/t/celebrities/#communities.

190 During my period of analysis – May 2024 through August 2024 – r/Fauxmoi had between 2.5 million and 3.3 million subscribers.

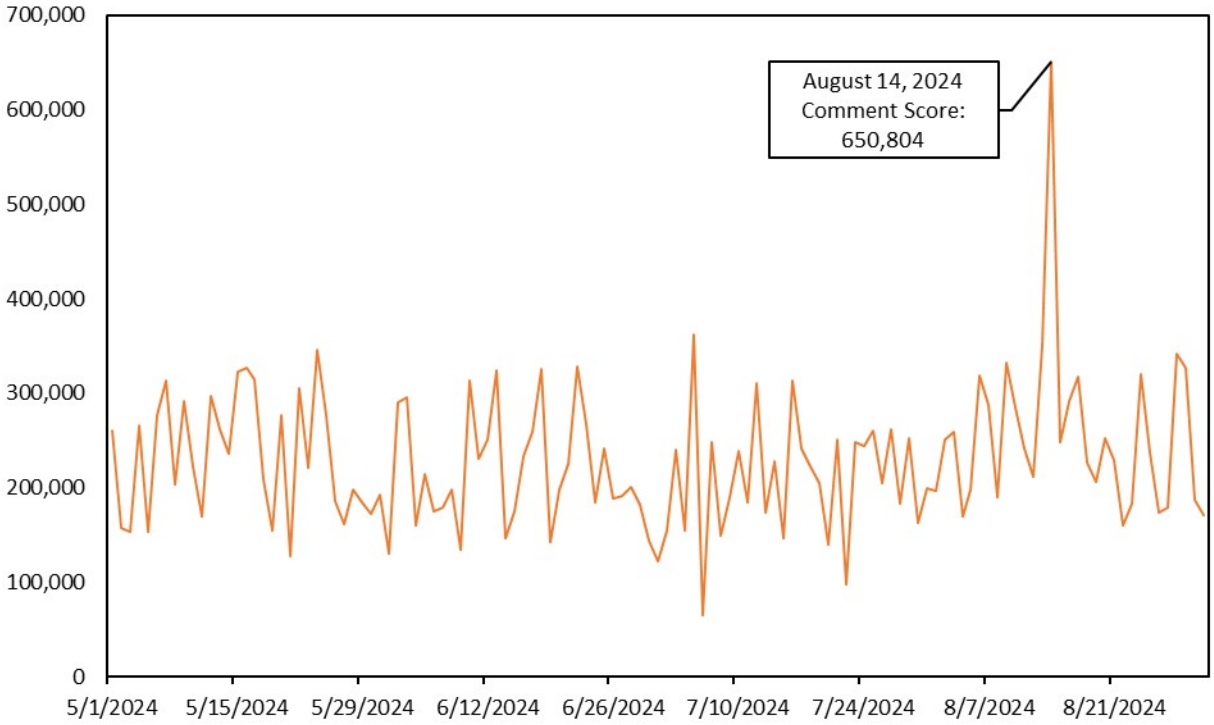
191 https://arctic-shift.photon-reddit.com/.

192 "r_fauxmoi_comments0501-0831" and "r_fauxmoi_posts0501-0831" contain the raw data collected from Arctic Shift and is included in my backup. A spreadsheet summarizing (1) daily posts and comments, daily post and comment score, (2) the ranking of posts by post score and by combined comment score, (3) the ranking of comments by comment score, (4) the 100 top-ranked comments by comment score and (5) the 100 bottom-ranked comments by comment score is also included in my backup data ("Fauxmoi Posts and Comments").

193 By "daily combined comment score" I mean the combined score for all comments published on each day. For instance, if there were three posts submitted on May 1, 2024 and each post had a score of five, the

the 123 days from May 1, 2024 through August 31, 2024. I observe a very large spike in combined comment score on August 14, 2024, where the daily combined comment score exceeded 650,000, which is nearly 80% greater than the score for the second largest day[194] and is more than five standard deviations above the mean. Notably this finding with respect to August 14 aligns with the fact that, on August 14, the TAG team texted internally that it was time to "go to war" and that "[w]e need Jed too."[195]

Figure 7. Daily combined comment score (May 1, 2024 – August 31, 2024)



75. The comment score from August 14 was driven by content about Ms. Lively and/or Mr. Baldoni. 23 of the 106 posts published on August 14 were about Ms. Lively and/or and Mr. Baldoni.[196] These 23 posts contributed approximately 80% of the daily combined comment score

"daily combined comment score" would be 15.

194 July 5, 2024 was the second ranked day with a daily combined comment score of 362,405.

195 KCASE-000003354 at 3359.

196 I manually reviewed all 106 posts published on August 14 to identify a connection to Ms. Lively and/or Mr. Baldoni. All but one of the 23 posts I considered relevant mention Ms. Lively or Mr. Baldoni in the title. The one exception is post with id number 1es93uc. This is a post featuring a clip from what appears to be a January 2023 interview Kate Winslet conducted with a child interviewer for the German broadcaster ZDF (https://www.foxnews.com/entertainment/kate-winslet-comforts-young-reporter-viral-moment-most-

for August 14 and approximately 62% of all comments published on that day.[197] **Figure 8** shows posts about Ms. Lively or Mr. Baldoni published on August 14 with a score of three or higher. Among these are posts about *The Hollywood Reporter* article reporting that Mr. Baldoni hired TAG PR, a post about a *TMZ* article reporting that Mr. Baldoni "fat shamed" Ms. Lively (hereafter, the "TMZ 'fat shaming' post"), a post about the "little bump" interview (hereafter, the "'little bump' post"), and a post about an *It Ends With Us* promotional interview with Ms. Lively and co-star Brendon Sklenar (hereafter, the "Lively-Sklenar interview post"). Most of the daily combined comment score was concentrated in the latter three posts: the *TMZ* "fat shaming" post (28%), the 'little bump' post (23%), and the Lively-Sklenar interview post (16%).

amazing-interview-ever). The reaction to this post suggests it was submitted on this day because it was used as a foil to Ms. Lively's "little bump" interview. Indeed, many users in the thread compared Ms. Winslet's behavior to Ms. Lively's. For instance, the third- and fourth-earliest comments archived by Arctic Shift are as follows: "Blake lively could never" and "That's so nice of her! It's important to remember that journalists ALSO get nervous and acknowledge that (Blake Lively, you here?? Take notes)". Additionally, the top comment for the entire thread is "Blake lively could never" (https://www.reddit.com/r/Fauxmoi/comments/1es93uc/throwback_to_kate_winslet_comforting_a_firsttime/). August 14 posts and my annotations are included in my backup data ("August 14 Fauxmoi Analysis").

[197] Percentages in this paragraph were calculated based on comments published on August 14, 2024.

Figure 8. Posts related to Ms. Lively and/or Mr. Baldoni on August 14, 2024

Post Title	Timestamp (UTC)	Post Score	Combined Comment Score[198]
Justin Baldoni Hires PR Crisis Veteran Amid Alleged 'It Ends With Us' Rift[199]	8/14/24 12:33 AM	1,572	27,147
The Blake Lively Interview that made me want to quit my job[200] (the "little bump post")	8/14/24 5:40 AM	16,790	147,481
Blake Lively's recent 'It Ends With Us' interview[201,202] (the "Lively-Sklenar interview post")	8/14/24 6:04 AM	6,864	106,176
Blake Lively, Justin Baldoni She felt the kissing went on for too long and also fat shamed her via TMZ[203] (the "TMZ fat shaming post")	8/14/24 3:48 PM	5,318	180,221
Shabnam Mogharabi (co-founded SoulPancake w/Rainn Wilson) shares post about her friend Justin Baldoni[204]	8/14/24 5:43 PM	2,752	11,270
Throwback to Kate Winslet comforting a first-time reporter mid-interview: "This is your first time doing it? Guess what? It's going to be the most amazing interview ever...Ask me anything you want. You don't have to be scared Ok? You've got this. Ok, let's do it!" [205,206]	8/14/24 6:29 PM	24,271	38,722
In an article from Daily Mail, Gloria Alred gives opinion on Blake Lively[207]	8/14/24 8:33 PM	2,434	26,931
What Blake Lively and Justin Baldoni Said About Using Intimacy Coordinators for It Ends With Us: 'Critical for Everyone's Safety'[208]	8/14/24 8:46 PM	112	1,577

198 This column is the sum of the scores of all comments I collected for each of the posts (up to August 31, 2024).

199 https://www.reddit.com/r/Fauxmoi/comments/1ernsse/justin_baldoni_hires_pr_crisis_veteran_amid/.

200 https://www.reddit.com/r/Fauxmoi/comments/1ertsu2/the_blake_lively_interview_that_made_me_want_to/.

201 https://www.reddit.com/r/Fauxmoi/comments/1eru6l6/blake_livelys_recent_it_ends_with_us_interview/.

202 This post features a TikTok video from user @cuntychanel (https://www.tiktok.com/@cuntychanel/video/7402538849647267102). The video shows an excerpt from an August 8 *It Ends With Us* promotional interview with Ms. Lively and Brendon Sklenar (https://www.youtube.com/watch?v=B064qXSwl7A).

203 https://www.reddit.com/r/Fauxmoi/comments/1es52kp/blake_lively_felt_justin_baldoni_fatshamed_her/.

204 https://www.reddit.com/r/Fauxmoi/comments/1es7ysp/shabnam_mogharabi_cofounded_soulpancake_wrainn/.

205 https://www.reddit.com/r/Fauxmoi/comments/1es93uc/throwback_to_kate_winslet_comforting_a_firsttime/.

206 This is a post featuring a January 2023 interview with Kate Winslet. The reaction to the post suggests it was submitted as a comparison to Ms. Lively's "little bump" interview.

207 https://www.reddit.com/r/Fauxmoi/comments/1esby2k/in_an_article_from_daily_mail_gloria_alred_gives/.

208 https://www.reddit.com/r/Fauxmoi/comments/1esc9fk/what_blake_lively_and_justin_baldoni_said_

76. The top-scoring comments on this day were also dominated by anti-Lively and pro-Baldoni sentiment and, conversely, the bottom-scoring comments were consistently pro-Lively and anti-Baldoni. I manually reviewed two sets of posts: (a) the top-50 and bottom-50 comments as measured by comment score,[209] and (b) the top-20 and bottom-20 comments to posts for each of the five highest ranking posts by combined comment score.[210] For each post or comment, I annotated whether it expressed positive or negative sentiment toward Ms. Lively, positive or negative sentiment toward Mr. Baldoni, or unsure/unrelated.[211]

77. Among the 50 comments with the highest scores, 45 express a discernable sentiment toward Ms. Lively or Mr. Baldoni. All 45 are either anti-Lively (39) or pro-Baldoni (6). The scores for these 45 comments comprise 35% of *all* comment scores from August 14, 2024. The highest scoring comment from August 14 achieved a score of over 25,000, more than 13,000 greater than the next highest-scoring comment. The comment was submitted to the TMZ "fat shaming" post and contained the following content:

> [Quoting TMZ:] >Sources with direct knowledge tell TMZ ... there was a scene in which Justin lifts Blake into the air. According to our sources, Justin has a history of back problems and before lifting Blake, he went to his on-set trainer and asked how much she weighed and how could he train to protect his back from injury. Blake later found out about Justin's comment and felt he fat-shamed her.
>
> Someone trying to protect their back from injury is not fat shaming.[212]

78. Among the 50 comments with the lowest scores, 23 express a discernable sentiment towards Ms. Lively or Mr. Baldoni. Of these 23, only 1 is anti-Lively. The remaining 22 are either anti-Baldoni (6) or pro-Lively (16). All 50 of these comments had negative comment scores, indicating they received more downvotes than upvotes. The comment scores of these 22 anti-

about/.

209 I did not limit my samples to posts about Ms. Lively or Mr. Baldoni. Nonetheless, 47 of the top-50 comments and 30 of the bottom-50 comments are from a post about either of them.

210 The top five posts as measured by comment score are those with ids: 1es52kp, 1ertsu2, 1eru6i6, 1es93uc, and 1ernsse. I restricted the samples to posts with a negative score. Only 1ertsu2 (the "little bump" post) had at least 20 comments with a negative score.

211 All comments I reviewed along with my annotations are included in my backup data ("August 14 Fauxmoi Analysis")

212 https://www.reddit.com/r/Fauxmoi/comments/1es52kp/blake_lively_felt_justin_baldoni_fatshamed_her/li3sr11/.

Baldoni or pro-Lively comments comprise 67% of all comment scores among the 50 lowest-scoring comments. The lowest scoring comment achieved a score of -917 (the next closest had a score of -314). The text of the lowest scoring comment is below:

> Ohhhhh eeekkk! I know never ever to comment on being pregnant or a bump and I am a woman … I wouldn't even say it to someone 8 months preggo unless they say it or talk about it. A) I just don't care at all B) the even 0.0005% chance she isn't
>
> Doesn't give anyone an excuse to be an asshole tho ¨
>
> Edit hell ya I love my record number of downvote! I hate the culture around pregnancy- it had nothing to do with the interview and everyone screaming "it's not a bad thing to talk about bumps!" Obvisously Blake didn't like it and a boundary was crossed. Fuck you all I stand by what I say. YALL ARE WEIRD LEAVE PREGNANT PEOPLE ALONE.[213]

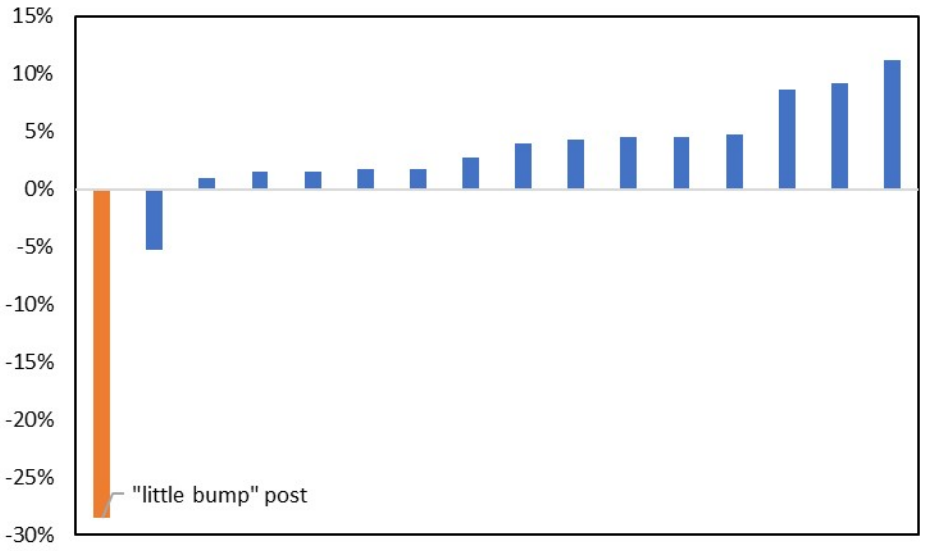
79. Among the top 20 comments for each of the 5 highest ranking posts by comment score, I again observe that all comments with discernable sentiment are either anti-Lively (63) or pro-Baldoni (11). Similarly, when I examine the bottom 20 comments for each of the 5 highest ranking posts by comment score, I again observe that the vast majority of comments with discernable sentiment are anti-Baldoni (14) or pro-Lively (23). Only three are either anti-Lively (2) or pro-Baldoni (1). The anti-Baldoni and pro-Lively comment scores comprise 98% of all scores from comments with discernable sentiment in my bottom 20 comment samples. Taken together, these results are consistent with a clear attempt to upvote anti-Lively or pro-Baldoni comments while downvoting pro-Lively or anti-Baldoni comments.

80. **August 14 Comment Score Discrepancies.** Additionally, I note a very large discrepancy between the number of upvotes recorded by Arctic Shift compared to the number of upvotes currently displayed on Reddit.com. Since the Arctic Shift archive is not retroactively updated, any content that was available at the time it was captured by Arctic Shift remains accessible, even if it has been deleted or modified since that time. Arctic Shift recorded 16,790 upvotes at the time it collected the "little bump" post, but viewing the post on Reddit.com shows a total of 12,000

[213] https://www.reddit.com/r/Fauxmoi/comments/1ertsu2/the_blake_lively_interview_that_made_me_want_to/li215an/.

upvotes, a nearly 30% decline. **Figure 9** compares the percentage change in upvotes recorded by Arctic Shift and the number reported on Reddit.com among posts published on r/Fauxmoi on August 14 that generated more than 500 upvotes. The "little bump" post is highlighted orange. I observe no similar decrease when comparing to upvote counts from posts published on the same day. In fact, in almost all cases, upvote counts have increased since the post was archived by Arctic Shift. The only other post with a decline is the Lively-Sklenar interview (5% decline). Such an anomalous finding is consistent with an attempt to manipulate upvote counts, as Reddit actively removes content from its platform for content manipulation (which includes vote manipulation).[214]

Figure 9. Percentage change in upvote counts recorded by Arctic Shift and currently available on Reddit.com[215]



81. **August Comment Scores.** I next review patterns in upvote activity on the r/Fauxmoi subreddit throughout August 2024. There were more than 9,000 posts and 480,000 comments

[214] https://redditinc.com/policies/transparency-report-july-to-december-2024 and https://www.reddit.com/r/RedditSafety/comments/1fdpjth/q224_safety_security_quarterly_report/. Reddit defines "vote manipulation" as "attempts to interfere with Reddit's upvote/downvote tallies." Users who participate in vote manipulation are given a warning and are subsequently banned if they continue to engage in content manipulation (https://redditinc.com/policies/transparency-report-july-to-december-2024).

[215] Post ids: 1ernsse, 1errfsd, 1ertsu2, 1eru6l6, 1erw3it, 1eryulm, 1es3kvm, 1es4aw2, 1es52kp, 1es7ysp, 1es93uc, 1es97jd, 1es97yq, 1esby2k, 1escqkk, and 1esdsr7. See the "Upvote Discrepancies" tab in the "August 14 Fauxmoi Analysis" spreadsheet in my backup materials.

on r/Fauxmoi from May 1, 2024 through August 31, 2024. These comments generated a combined score of more than 28 million. I observed multiple anomalies associated with upvote counts on comments published in this subreddit that are indicative of an attempt to manipulate scores of comments. The activity that I analyzed and observed collectively demonstrates evidence of artificial or manipulating activity.

82. First, I analyzed posts by the combined score of their comments.[216] Among the top-100 of these posts as measured by combined comment score, eight relate to Ms. Lively and were posted in August, including the first, third, fourth, ninth, twelfth, and fourteenth ranked posts. These posts are shown in **Figure 10** below.

Figure 10. Posts about Ms. Lively or Mr. Baldoni in the top 100, as measured by combined comment score[217]

Date (UTC)	Combined Comment Score	Rank (n=9,102)	Post Title
8/14/2024	180,221	1	Blake Lively Felt Justin Baldoni Fat-Shamed Her, Kissed Too Long During Scene
8/14/2024	147,481	3	The Blake Lively Interview that made me want to quit my job
8/16/2024	146,978	4	Blake Lively interviewer reveals she's infertile after actress points out her 'little bump': 'That comment was like a bullet'
8/14/2024	106,176	9	Blake Lively's recent 'It Ends With Us' interview
8/13/2024	94,352	12	Blake Lively promoting her hair brand in press tour of film about domestic violence "It Ends with Us"
8/9/2024	92,913	14	'It Ends With Us' Director Fought With Blake Lively Over Final Cut — World of Reel
8/9/2024	76,925	25	It Ends With Us Director Justin Baldoni Suggests Blake Lively Should Direct Sequel: 'Better People for That One'
8/7/2024	50,749	73	Drama with Justin Baldoni & the cast of It Ends With Us? Minimal to no interactions during promo and unfollowing on social media
8/15/2024	46,311	96	Blake Lively's alcoholic drinks company being promoted during premiere of It Ends With Us, a movie about DV

83. While the posts with the highest combined comment scores are concentrated on August

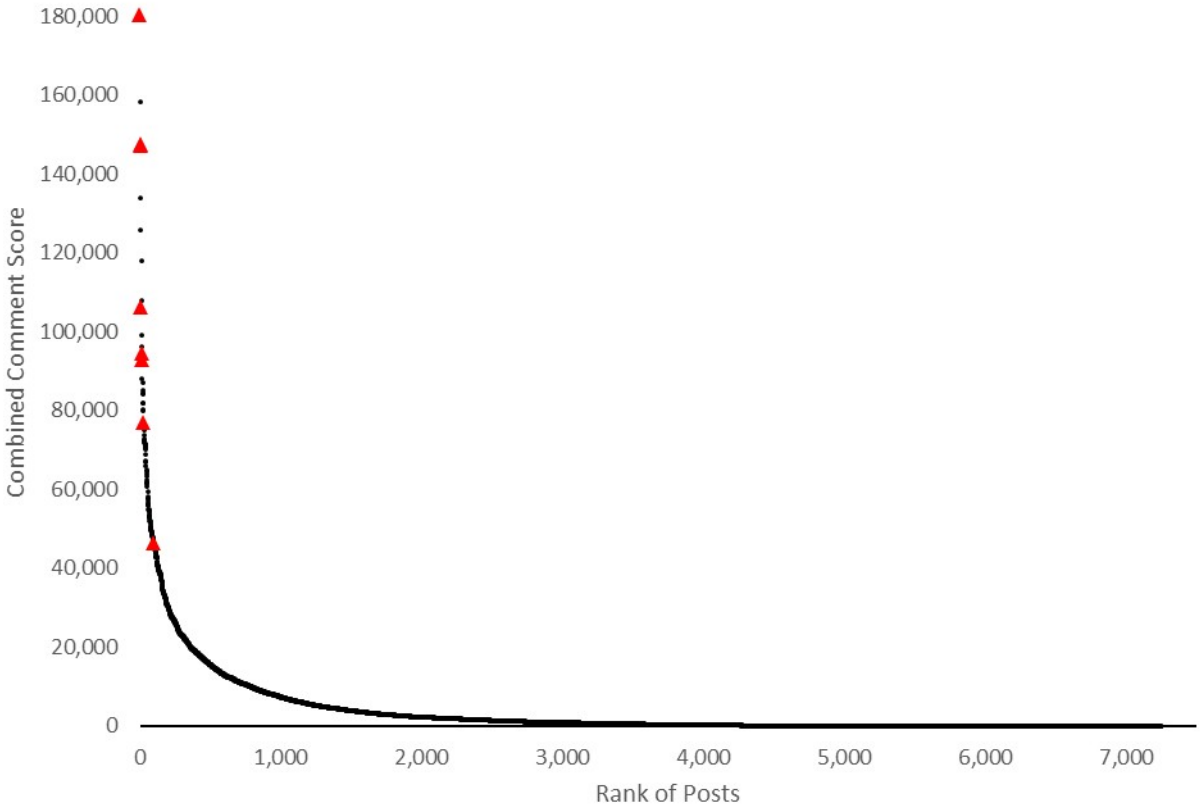
[216] For instance, if a post had three comments, each with a score of five, the combined comment score for the post would be 15.

[217] The table displays all posts published in August 2024 containing the strings "Blake," "Lively," or "Baldoni" in either the post title or the post selftext.

14,[218] multiple days are represented in the top-100, including two from August 8 and posts from August 13, 14 and 15. **Figure 11** shows the ranking of posts in my dataset based on their combined comment scores. Excluded from the graph are 1,878 posts with zero comments. Each dot on the graph represents one post. The red triangles denote posts ranked in the top 100 that relate to Ms. Lively from August 2024.

[218] Even when restricting the analysis to the top-100 posts, the August 14 posts remain statistically exceptional. Within the top 100 posts ranked by combined comment score, I computed robust z-scores based on the Median Absolute Deviation (MAD) to evaluate the relative extremeness of each post's comment activity. The MAD is a robust measure of statistical dispersion defined as the median of the absolute deviations from the dataset's median (*i.e.*, MAD = median of $|x - \text{median}(x)|$). Robust z-scores were then calculated as $0.6745 \times (x - \text{median}) / \text{MAD}$, where 0.6745 is a scaling constant ensuring comparability with the standard z-score under normality. Conventionally, a threshold of 3.5 is recommended (See Iglewicz, B., & Hoaglin, D. C. (1993). How to Detect and Handle Outliers. 1 ASQC Quality Press. *Milwaukee, Wisconsin*.) but some researchers suggest that 2.5 is also a reasonable choice (See Leys, C., Ley, C., Klein, O., Bernard, P., & Licata, L. (2013). Detecting outliers: Do not use standard deviation around the mean, use absolute deviation around the median. *Journal of experimental social psychology*, *49*(4), 764-766.).
Applying this metric:
The TMZ "fat-shaming" post (combined comment score = 180,221) has a robust z = 6.66, indicating it is an extreme outlier ($p \approx 10^{-9}$).
The "little bump" post (combined comment score = 147,481) has a robust z = 4.83, signifying a highly significant outlier ($p \approx 10^{-6}$).
The Lively–Sklenar interview post (combined comment score = 106,176) has a robust z = 2.51, which is a possible outlier with an unusually elevated total comment score.
The output from my statistical tests is included in my backup data ("Fauxmoi Statistical Tests").

Figure 11. Rank of posts by combined comment scores



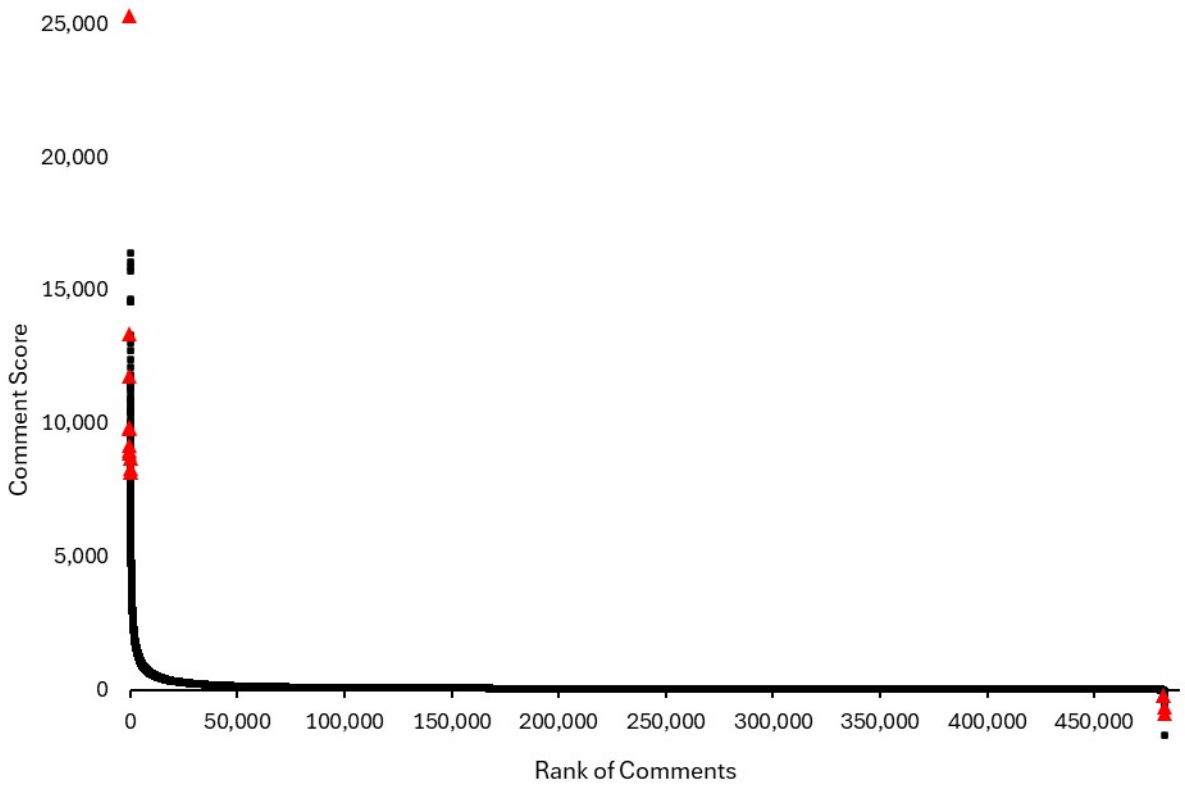
84. Second, I analyze comments by their comment score. I observed 13 comments about Ms. Lively or Mr. Baldoni within the top-100 comments ranked by comment score, including the highest-ranking comment overall. The highest-ranking comment is the top comment to the *TMZ* "fat shaming" post, where the user writes that "Someone trying to protect their back from injury is not fat shaming."[219] This comment is an extreme outlier.[220] It generated 25,279 upvotes while the next highest comment generated 16,318. The difference between the first- and second-

[219] https://www.reddit.com/r/Fauxmoi/comments/1es52kp/blake_lively_felt_justin_baldoni_fatshamed_her/li3sr11/.

[220] I calculated robust z-scores based on MAD for all 13 top-ranking comments about Ms. Lively or Mr. Baldoni. Among all 271,929 comments on r/Fauxmoi that received more than one upvote between May 1 and August 31, 2024, I found that the top-ranking comment has a robust z = 1,135.9, an extraordinary deviation indicating that its 25,279 upvotes are more than a thousand MAD units above the median. Even the next twelve highest-ranked comments about Ms. Lively or Mr. Baldoni fall between a robust z ≈ 350-600, each representing multi-hundred-sigma departures from the distribution's center. Compared to the conventional threshold around |z| ≥ 3.5, these magnitudes signify extreme and statistically significant engagement levels. The output from my statistical tests is included in my backup data ("Fauxmoi Statistical Tests").

ranked comment is the same as the difference between the comments ranking second and 115. Additionally, comments about Ms. Lively also have the lowest scores. Nearly 17,000 comments in my dataset have negative scores (*i.e.*, the number of downvotes exceed the number of upvotes). Four comments about Ms. Lively from August ranked in the bottom-100 comments, including the fourth and fifth lowest overall.[221] **Figure 12** shows the ranking of the comments in my dataset based on comment scores. Each dot represents one comment. Red triangles denote comments about Ms. Lively or Mr. Baldoni from August ranked within the top 100 and the bottom 100.

Figure 12. Rank of comments by comment score



85. As I observed when analyzing posts, high comment scores are concentrated among posts published on August 14, with seven of the top 100 comments being published on that day, as

[221] All four of the lowest ranking comments about Ms. Lively are clear outliers among negative scoring posts, robust z-scores of –122.89, –89.71, –29.54, and –28.60, respectively. These values lie far beyond the ±3.5-MAD criterion, confirming that all four comments were statistically extreme in their negative reception. The output from my statistical tests is included in my backup data ("Fauxmoi Statistical Tests").

shown in **Figure 13** below. Nonetheless, multiple other days are represented in the top 100, including four posts from August 17, and one post from both August 9 and August 13. The content of these highest-ranked comments is almost all anti-Lively or pro-Baldoni. In particular, there are multiple comments that cast doubt on the claim that Mr. Baldoni "fat shamed" Ms. Lively, that that Ms. Lively's response to Ms. Flaa's "little bump" question was unacceptable (including comments referring to her as a "bully," "mean girl," and "rude"), or refer to Ms. Lively's "plantation wedding."

Figure 13. Top-ranked comments by comment score mentioning Ms. Lively or Mr. Baldoni[222]

Date (UTC)	Score	Rank (n=482,811)	Post Title	Comment Text
8/14/2024	25,279	1	Blake Lively Felt Justin Baldoni Fat-Shamed Her, Kissed Too Long During Scene	>Sources with direct knowledge tell TMZ ... there was a scene in which Justin lifts Blake into the air. According to our sources, Justin has a history of back problems and before lifting Blake, he went to his on-set trainer and asked how much she weighed and how could he train to protect his back from injury. Blake later found out about Justin's comment and felt he fat-shamed her. Someone trying to protect their back from injury is not fat shaming.
8/17/2024	13,353	9	Blake Lively interviewer reveals she's infertile after actress points out her 'little bump': 'That comment was like a bullet'	Jesus Christ
8/14/2024	11,730	16	The Blake Lively Interview that made me want to quit my job	imagine how hurt she had to feel to upload that interview 8 years later. i love this level of petty.
8/14/2024	9,801	37	Blake Lively Felt Justin Baldoni Fat-Shamed Her, Kissed Too Long During Scene	seriously, i guess blake's pr is feeding tmz this bullshit.
8/17/2024	9,754	38	Blake Lively interviewer reveals she's infertile after actress points out her 'little bump': 'That comment was like a bullet'	Whether she's infertile or not, making disparaging "jokes" or comments about someone's weight and/or appearance is just not done
8/14/2024	9,127	47	Blake Lively's recent 'It Ends With Us' interview	https://i.redd.it/jklwpj2xmkid1.gif What the hell is wrong with her? This is just wilful ignorance and lack of self awareness from a fully grown woman. Is she even aware of the movie she promoting? Does she know what it's about? The cognitive dissonance is off the charts at this point, she reduced the valid question the interview asked to a flippant joke. I genuinely feel bad for her costar and you can clearly see he is uncomfortable but since they've all thrown in their lot with Blake and her annoying husband they are stuck with this mess. I honestly appreciate Justin for being the only person to address and tackle the DV theme on this press tour. Also I never want see

[222] The table displays all posts published in August 2024 containing the strings "Blake," "Lively," or "Baldoni" in either the comment text or the post title.

Date (UTC)	Score	Rank (n=482,811)	Post Title	Comment Text
				or hear about Blake, her husband and her immature group of friends ever again.
8/13/2024	8,974	55	Blake Lively promoting her hair brand in press tour of film about domestic violence "It Ends with Us"	I dislike her more and more everyday. Plantation wedding, antebellum blog, big ego. Is her version of gaslight, gatekeep, girlboss
8/9/2024	8,881	56	'It Ends With Us' Director Fought With Blake Lively Over Final Cut — World of Reel	The first mistake was making a movie based off Collen Hoover
8/14/2024	8,671	64	Throwback to Kate Winslet comforting a first-time reporter mid-interview: "This is your first time doing it? Guess what? It's going to be the most amazing interview ever…Ask me anything you want. You don't have to be scared Ok? You've got this. Ok, let's do it!"	Blake lively could never
8/14/2024	8,660	65	Blake Lively Felt Justin Baldoni Fat-Shamed Her, Kissed Too Long During Scene	This is weak as hell. Is this it?
8/17/2024	8,302	78	Blake Lively interviewer reveals she's infertile after actress points out her 'little bump': 'That comment was like a bullet'	Plantation Lively is quite the mean girl, huh? That just felt so unnecessarily dismissive and disrespectful.
8/14/2024	8,151	83	The Blake Lively Interview that made me want to quit my job	That was so rude and dismissive, the way these grown women treated the interviewer was very disrespectful. It felt like I was watching mean high school bullies ignoring another student they were forced to work with. Why wouldn't Blake face or even address the interviewer? I thought my opinion of her couldn't really sink any lower but yet here we are.
8/17/2024	8,139	84	Blake Lively interviewer reveals she's infertile after actress points out her 'little bump': 'That comment was like a bullet'	What is Livelys fucking problem lol

86. **Figure 14** shows comments from the bottom-100 about Ms. Lively. All the bottom-ranked comments are either supportive of Ms. Lively or suggest that it was inappropriate for Ms. Flaa to refer to Ms. Lively's "little bump." Only three comments in the entire May – August period had a comment score lower than the lowest-ranked comment about Ms. Lively. The content of these comments is quite different from the comments about Ms. Lively. The lowest ranked comment is from a user who questions the need for a celebrity to preserve her children's privacy;[223] the second lowest includes commentary related to trans men;[224] and the third lowest is from a user publishing a comment supporting of President Trump and his followers following the attempted assassination in July 2024.[225] In comparison, none of the bottom-ranked comments about Ms. Lively engage with partisan or controversial topics. Instead, users are offering their own opinions about Ms. Lively and/or Ms. Flaa.

[223] https://www.reddit.com/r/Fauxmoi/comments/1dnjv7c/comment/la37c0e/ ("Is this considered 'absolute privacy'? Why not just not post photos of your kids, instead of these weird baiting pics that don't show their faces? I don't get it").

[224] https://www.reddit.com/r/Fauxmoi/comments/1ck7vcx/comment/l2l6o94/ ("Not just women or even people who were assigned female at birth ETA: You can keep downvoting me but it won't make me less right. You can google "trans women endometriosis" or "men endometriosis" and see what the fuck I mean. Saying that XYZ is not solely a woman's issue does not mean that the experiences of women who have it are being erased. Making endometriosis, a pain condition, a woman's disease just enables doctors to shrug them off (which happens a lot! Diagnosis takes an average of seven years!) and shrug off anyone else who doesn't fall under the cis woman's umbrella, which makes it that much harder to get a diagnosis. And it's already hard!").

[225] https://www.reddit.com/r/Fauxmoi/comments/1e2w2rp/comment/ld4357y/ ("It's just too early for this. Someone did actually die, there are people grieving. I hate Trump and heavily dislike anyone who supports him, but a shooting is traumatic. Trump and his supporters should be treated as survivors recovering from trauma. Edit: I'm being downvoted for saying we should feel bad about a shooting.... big double standards in this community").

Figure 14. Bottom-ranked comments by comment score mentioning Ms. Lively or Mr. Baldoni

Comment Metadata	Post Title	Comment Text
Date: 8/14/2024 Score: -917 Rank (from the bottom): 4	The Blake Lively Interview that made me want to quit my job	"Ohhhhh eeekkk! I know never ever to comment on being pregnant or a bump and I am a woman … I wouldn't even say it to someone 8 months preggo unless they say it or talk about it. A) I just don't care at all B) the even 0.0005% chance she isn't Doesn't give anyone an excuse to be an asshole tho ¨ Edit hell ya I love my record number of downvote! I hate the culture around pregnancy- it had nothing to do with the interview and everyone screaming "it's not a bad thing to talk about bumps!" Obvisously Blake didn't like it and a boundary was crossed. Fuck you all I stand by what I say. YALL ARE WEIRD LEAVE PREGNANT PEOPLE ALONE."[226]
Date: 8/20/2024 Score: -671 Rank: 5	Post-Blake Lively Interview: Kjersti Flaa Thanking Everyone & Kristen Stewart !!!	"Well... Let me get my downvotes cause this woman is a Johnny Depp fangirl who so willingly expressed so much adoration and respect to him. He must have really made her feel special? Nope. Not defending Blake and that weird as response to congratulations on your bump statement... My rule is that, the only time to initiate a statement or conversation about pregnancy is when the pregnant woman starts it for the very simple fact that you don't know the story behind a pregnancy (unplanned?, complications, health problems, financial issues, etc etc). Just the fact that she's such a fan girl of Johnnie.... then posting this fiasco of an interview, that happened years ago, while Blake is in the midst of this movie drama and Justin allegedly hiding Johnny's PR person? tells me there's intentions of different sorts."[227]
Date: 8/17/2024 Score: -225 Rank: 86	Blake Lively interviewer reveals she's infertile after actress points out her 'little bump': 'That comment was like a bullet'	I saw the interview and Blake was totally acting bitchy. BUT to play devil's advocate, the interviewer never should have commented on Blake's "little bump" first. No matter how obvious or well-known it is, you shouldn't say anything, especially with the interviewer's own sensitivity on the subject.[228]
Date: 8/20/2024 Score: -218 Rank: 90	Post-Blake Lively Interview: Kjersti Flaa Thanking Everyone & Kristen Stewart !!!	Why are they booing you, you're right 😭 Blake Lively may not be a good person for multiple reasons but this wave of hatred, tiktoks of people mocking her interviews with thousands of comments reminding me of what they did to Amber.[229]

87. As discussed above, early vote shocks on Reddit have causal effects on a post's downstream rank and visibility because Reddit's ranking is driven by vote- and time-based scoring. Targeted downvoting of comments is especially impactful. Comments that have a negative score appear towards the bottom of threads and comments with too low of a score are hidden by default, [230] meaning a user would have to go out of their way to see them. Accordingly, the presence of abnormal vote patterns on the subreddit on August 14 and other days throughout August 2024 suggests vote manipulation occurred to ensure the desired content was amplified and unwanted content was supressed.

C. "Little Bump" YouTube Video

88. Next, I analyzed the spread of the "little bump" interview on YouTube. I selected the YouTube upload of the "little bump" interview because Defendants indicated that they wanted to boost an article linking to the video.[231] To assess whether there are indicators of inauthentic activity related to this video, I analyzed the volume and content of the video's YouTube comments.

89. I based my analysis on the comments to the YouTube video. To do so, I queried the YouTube API to return all comments associated with Ms. Flaa's upload of the "little bump" interview (YouTube video id: F2-2RBi1qzY). My query returned a total of 34,486 comments.[232]

90. While Ms. Flaa uploaded the "little bump" interview to her YouTube channel on August 10, 2024,[233] it received very limited interest.[234] The earliest archive of the video available on Archive.org shows that as of August 14, 2024 at 1:07pm UTC (9:07am ET) the video generated a

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226 www.reddit.com/r/Fauxmoi/comments/1ertsu2/the_blake_lively_interview_that_made_me_want_to/li215an/

227 www.reddit.com/r/Fauxmoi/comments/1ewg8df/postblake_lively_interview_kjersti_flaa_thanking/liyqjz6/

228 www.reddit.com/r/Fauxmoi/comments/1eu0ud2/blake_lively_interviewer_reveals_shes_infertile/liiaeoi/

229 www.reddit.com/r/Fauxmoi/comments/1ewg8df/postblake_lively_interview_kjersti_flaa_thanking/liz6vn9/

230 https://old.reddit.com/prefs/.

231 KCASE-000003354 at 3361.

232 All comments returned by that query are available in the file named "YouTube Comments Collected" included in my backup data.

233 https://www.youtube.com/watch?v=F2-2RBi1qzY.

234 The video received limited interest despite the fact Ms. Flaa's YouTube channel had 91,600 subscribers at the time she uploaded the video (https://web.archive.org/web/20240814130713/https://www.youtube.com/watch?v=F2-2RBi1qzY).

total of 19,459 views, 1,200 likes, and fewer than 2,000 comments.[235] As of writing my report, the video has over 7.2 million views.[236] As mentioned above, the first notable Reddit post linking to the interview was published on r/Fauxmoi on August 14 at 1:40am ET. Roughly six hours after the Reddit post, Buzzfeed published an article entitled *A Journalist Just Shared A 2016 Interview With Blake Lively That Was So "Uncomfortable" It Made Her Want To Quit Her Job, And People Are Horrified*.[237] In the hours that followed, a range of other media outlets published articles discussing the interview,[238] including the *Daily Mail* at 10:36am ET.[239]

91. Prior to this point, the video received little engagement, generating approximately 900 comments as of August 14 at 9:07am ET.[240,241] At 1:30pm ET a discussion occurred among the TAG PR team wherein it was suggested that the TAG PR team "should send to Jed" the Daily Mail article discussing the "little bump" YouTube video (the "TAG Suggestion").[242] In the hours that followed this discussion, comments on the interview on YouTube began to increase rapidly. **Figure 15** shows the comments on that video over time.

235 https://web.archive.org/web/20240814130713/https://www.youtube.com/watch?v=F2-2RBi1qzY.

236 https://www.youtube.com/watch?v=F2-2RBi1qzY

237 https://www.buzzfeednews.com/article/stephaniesoteriou/rude-2016-blake-lively-interview-journalist-quit.

238 See, for example, https://www.forbes.com/sites/danidiplacido/2024/08/14/the-backlash-against-blake-lively-explained/; https://nypost.com/2024/08/14/entertainment/reporter-calls-out-blake-lively-for-uncomfortable-interview/; https://www.msn.com/en-gb/lifestyle/style/blake-lively-interview-made-me-want-to-quit-my-job-journalist-shares-clip-amid-it-ends-with-us-drama/ar-AA1oPTQM.

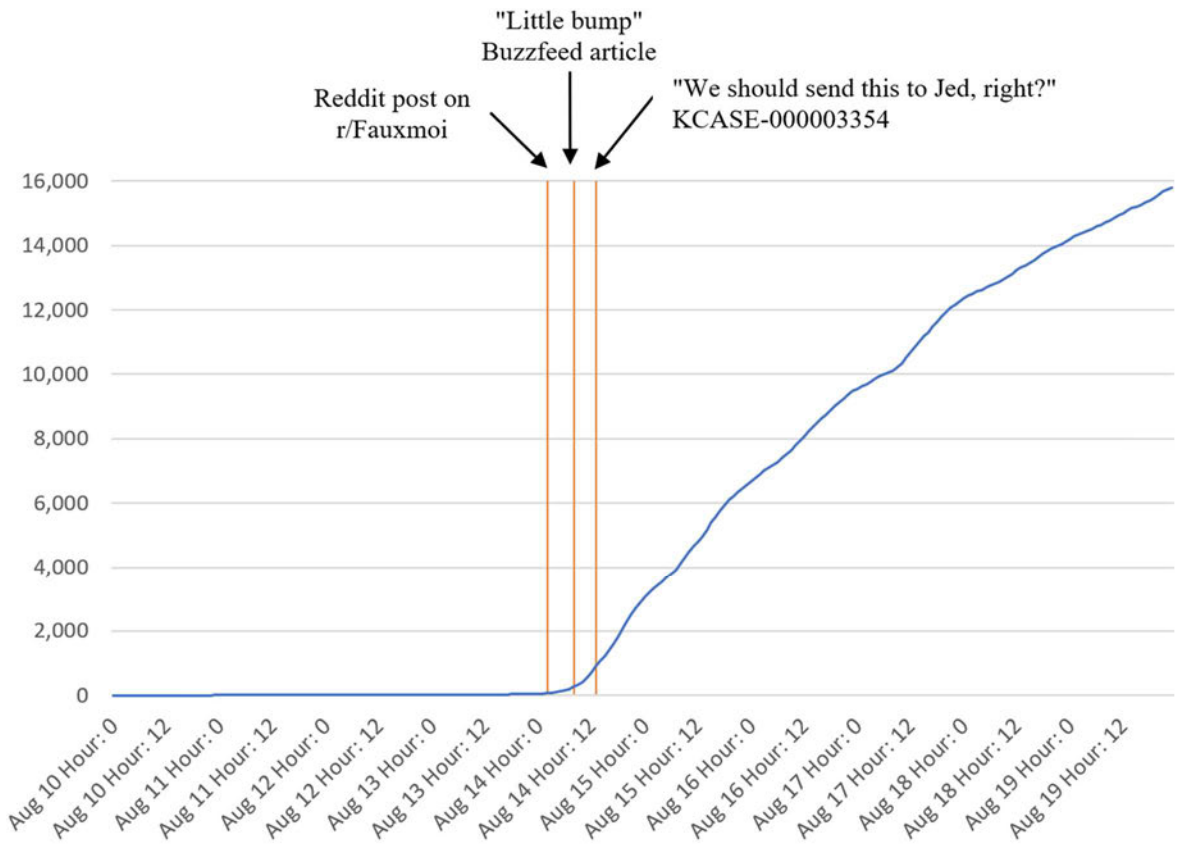
239 https://www.dailymail.co.uk/femail/article-13742877/reporter-blake-lively-interview-quit-ends-feud.html.

240 https://web.archive.org/web/20240814130713/https://www.youtube.com/watch?v=F2-2RBi1qzY.

241 I note there is a discrepancy between the number of comments displayed in the Archive.org captures from August 14 and my comments dataset. My dataset includes 282 comments as of 9am ET, compared to the 1,200 comments displayed in the Archive.org captures timestamped at the same time.

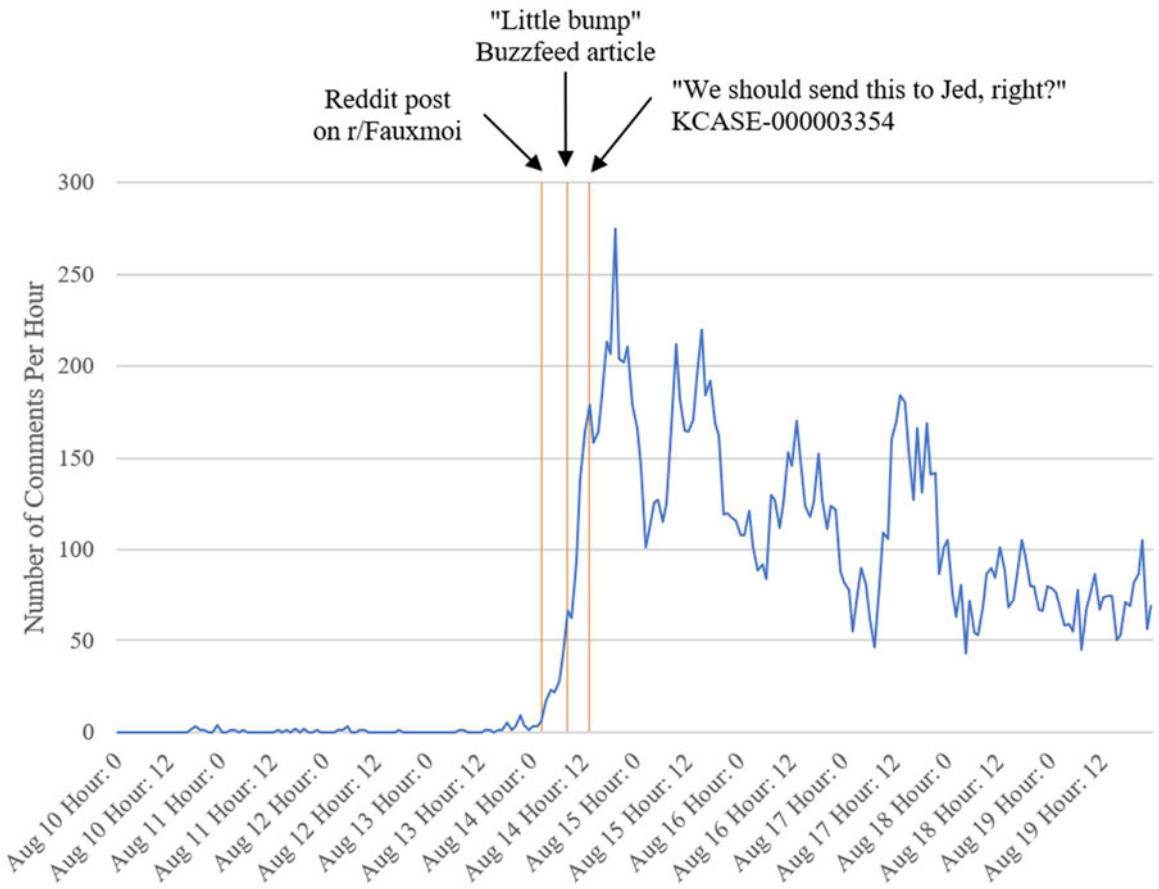
242 KCASE-000003354.

Figure 15. Comments on the "little bump" interview on YouTube from August 10 – 19, 2024



92. Similarly, the number of new comments per hour also spiked in the hours following the TAG Suggestion (see **Figure 16**).

Figure 16. Comments on the "Little Bump" YouTube video peaked in the hours after the TAG Suggestion[243]



93. The prevalence of comments referencing terms related to bullying – reflected in the "key messaging points" of the alleged campaign[244] – also rapidly increased in the hours after the Tag Suggestion.[245] "Bully"-related terms appeared in only 14 comments prior to the suggestion to share the content with Mr. Wallace. In the hours following the TAG Suggestion, "bully" related comments began to rapidly appear, coming to represent more than 4% of all comments over the next 24 hours. **Figure 17** shows the fraction of hourly comments containing "bully" related terms

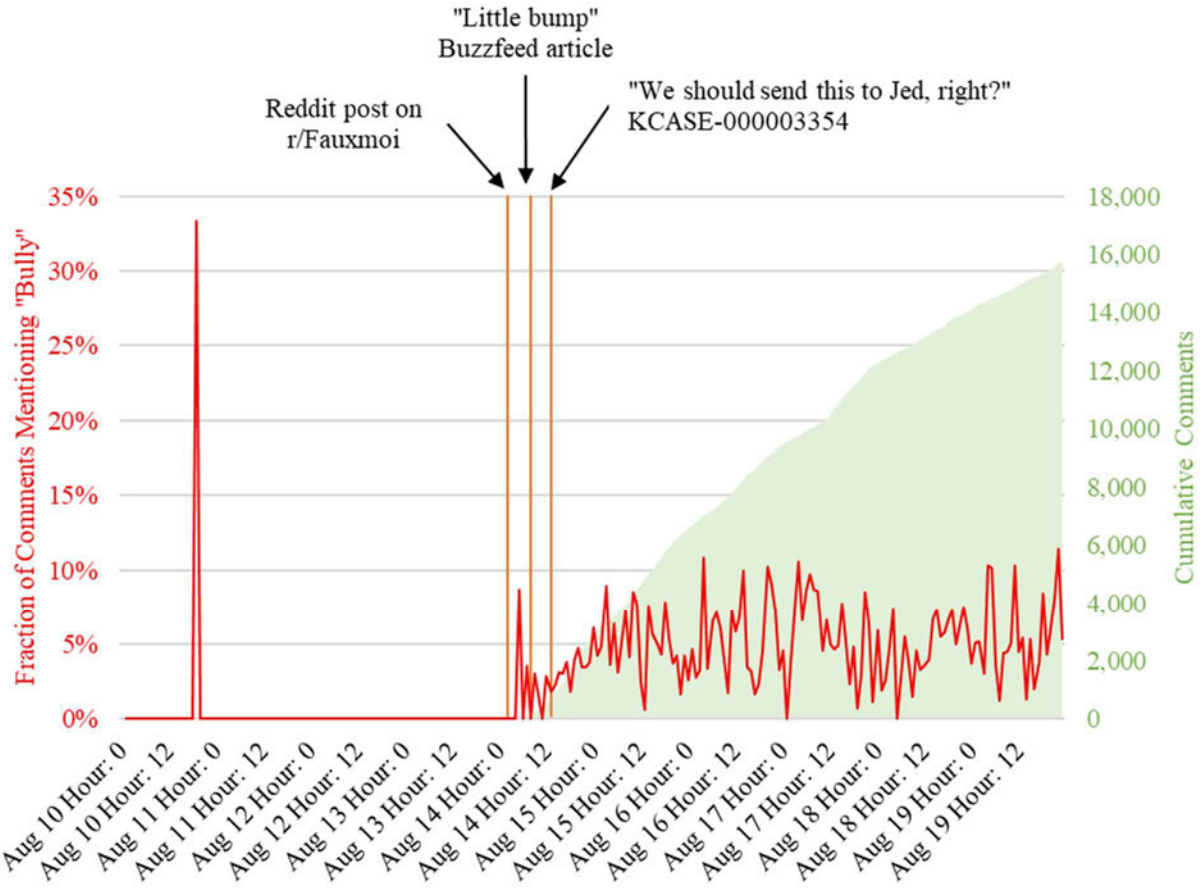
243 See, "YouTube Comments Collected" in my backup data.

244 The "key messaging points" in the document refer to Ms. Lively's "less than favorable reputation in the industry" as well as Ms. Lively's proclivity to act as a "bully." Second Amended Complaint, Exhibit D ("—i.e., "There is a clear, likely motive due to the film's value and fanbase, in which **BL is attempting to bully her way into buying the rights for It Starts With Us**") (emphasis added).

245 I searched for comments that contained either of the strings "bully" or "bullie." These terms could appear either as a standalone term or as part of a longer term (*e.g.*, "bullying" or "bullies").

(the red line) along with the cumulative number of comments (the green background).

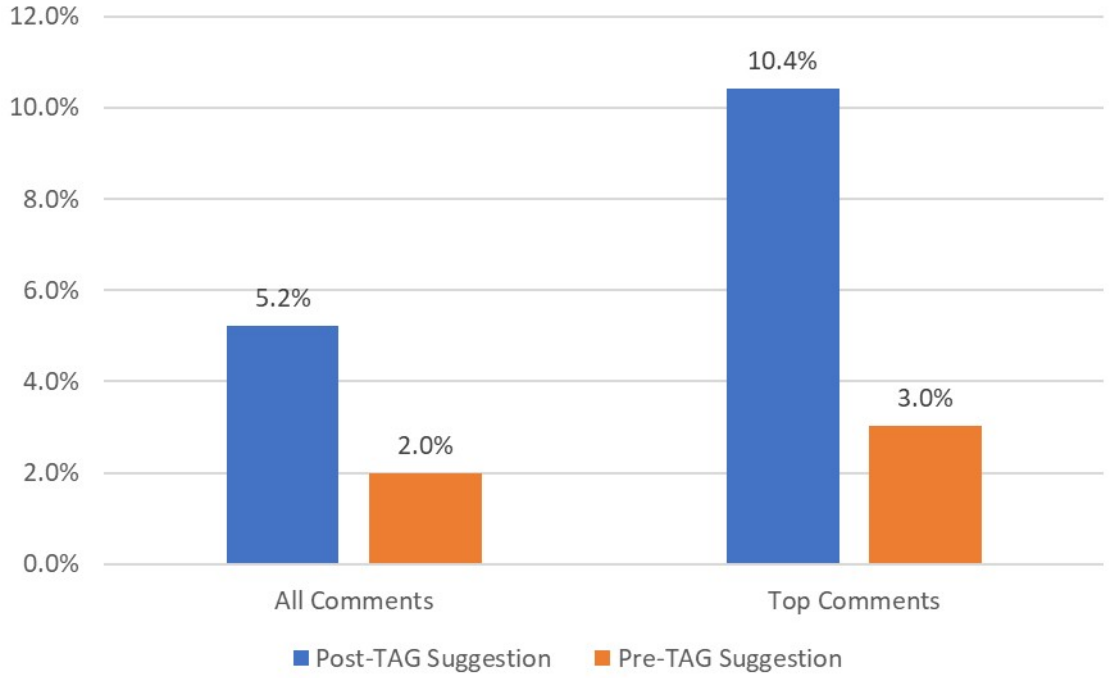
Figure 17. Fraction of hourly comments on the "Little Bump" YouTube video that mention "bully" terms over time[246]



94. This trend is even more striking when analyzing comments that received the greatest number of likes. "Bully" related terms appear in 10.4% of the most popular comments (*i.e.,* those that received 500 or more likes) from after the TAG Suggestion. In contrast, the term appears in only a single top comment made before the TAG Suggestion (as shown in **Figure 18**).

[246] The large spike observed is from August 10 at 6pm. There is a single "bully" comment published in this hour. Because a total of three comments were published at 6pm, the proportion of "bully" comments is high.

Figure 18. The prevalence of "bully" related terms in comments on the "Little Bump" video increased following the TAG Suggestion



95. In sum, comments on the "little bump" interview increased rapidly and at a disproportionate rate in the hours that followed the TAG Suggestion. Over this same period, the volume and popularity of comments that included "bully" related terms also increased rapidly at a disproportionately higher rate than before the TAG Suggestion. These results are consistent with a coordinated attempt to manipulate and boost content online.

VIII. CONCLUSION

96. My analysis of TikTok posts and comments data, upvotes to posts and comments on r/Fauxmoi, and YouTube comments to the "little bump" interview shows consistent and strong evidence of coordinated activity consistent with the "key messaging points" of the Defendant's alleged campaign. On TikTok, I find abnormal levels of negativity directed towards Ms. Lively that are both statistically significant and practically significant deviations from expected values. Further, the content of many comments is quite similar, which is another indicator of an inauthentic campaign. On Reddit, I find multiple extreme statistical outliers associated with the score of comments submitted on August 14, 2024. Multiple other statistical outliers are observed

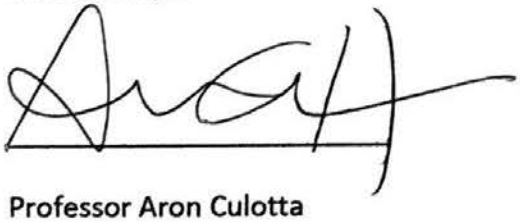
among comments about Ms. Lively and/or Mr. Baldoni during the rest of August. The content of high-ranking comments is consistently anti-Lively or pro-Baldoni in nature and the low-ranking comments are pro-Lively in nature, suggesting a coordinated effort to improve the visibility of content aligned with the campaign's "key messaging points." On YouTube, I find a sudden increase in the number of comments after the "little bump" interview was discussed by the Defendants, after the "little bump" post was submitted to r/Fauxmoi, and after the TAG Suggestion. Further, YouTube comments including the word "bully" grew disproportionately after the TAG Suggestion.

97. As mentioned above, the Wayfarer Parties explicitly stated that their campaign would be "untraceable." Nonetheless, the clear markers of inauthenticity I found suggests that a manipulation campaign occurred. Moreover, the presence of markers of inauthenticity in these three domains suggests that inauthentic activity was likely present in others.

98. I understand that depositions were only completed the week prior to filing my report. Similarly, document production for materials that I may have otherwise considered have been produced the week prior to filing my report. For these reasons (among others), I reserve the right to supplement my report.

Submitted:

October 17, 2025



Professor Aron Culotta

APPENDIX A: DR. ARON CULOTTA'S CURRICULUM VITAE

Dr. Aron Culotta – Curriculum Vitae

Professor
Department of Computer Science
Tulane University
New Orleans, LA 70118
[redacted]

Director
Center for Community-Engaged Artificial Intelligence
https://www.cs.tulane.edu/~aculotta
https://sse.tulane.edu/cs/ceai
[redacted]

I conduct interdisciplinary research in human-centered artificial intelligence, particular in areas of natural language processing, social network analysis, and machine learning, with applications in public health, emergency response, criminal justice, and civic transparency.

Contents

Education

University of Massachusetts at Amherst — Amherst, MA
Ph.D., Computer Science, 2008 *advisor: Andrew McCallum*

University of Massachusetts at Amherst — Amherst, MA
M.S., Computer Science, 2004

Tulane University — New Orleans, LA
B.S., Computer Science (Math minor), *summa cum laude*, 2002

Professional History

Full Professor of Computer Science — 2025 - present
Associate Professor of Computer Science — 2020 - 2025
Tulane University — New Orleans, LA

Lead the Text Analysis in the Public Interest lab, conducting research in natural language processing, social network analysis, and machine learning.

Data Scientist — 2018 - present
Voluble — Toronto, Ontario

Develop data science solutions to analyze social media for litigation, including defamation, trademark infringement, and deceptive advertising.

Associate Professor of Computer Science 2019 - 2020
Assistant Professor of Computer Science 2013 - 2019
Illinois Institute of Technology Chicago, IL

Assistant Professor of Computer Science 2012 - 2013
Northeastern Illinois University Chicago, IL

Assistant Professor of Computer Science 2009 - 2012
Southeastern Louisiana University Hammond, LA

Chief Scientist 2007 - 2022
IT.com Washington, DC

Designed and implemented large-scale statistical topic models for knowledge discovery from email and social media data for law and customer support domains.

Software Engineer 2008
Amazon.com Seattle, WA

Designed product attribute extraction algorithms to enhance the product catalog. Provide scalable, practical algorithms for large, real-world data sets.

Research Assistant 2002 - 2008
University of Massachusetts Amherst, MA

Research Intern 2007
Microsoft Research Redmond, WA

Designed statistical machine learning algorithm to extract and synthesize information from search results.

Research Intern 2005
Google, Inc. New York, NY

Designed machine learning algorithm to combine relation extraction and knowledge discovery from Wikipedia documents.

Research Intern 2003
International Business Machines Yorktown Heights, NY

Developed novel support vector machine algorithm to extract relations between people and organizations in newswire text.

Research Assistant 2001
University of Alabama Huntsville, AL

Optimized memory allocation algorithms for Java's Virtual Machine. Summer program sponsored by National Science Foundation.

Honors and Awards

- Barbara E. Moely Service Learning Award, 2024-2025: One of two faculty chosen across the university, based in part on the computer science Service Learning Capstone course I developed to support community-driven research in AI and criminal justice.
- Teacher of the Year, 2018, Illinois Institute of Technology, Computer Science Department
- Nayar Prize II Finalist, "Cyberbullying Early Warning and Response System," 2016
- "Outstanding Paper Honorable Mention," AAAI-2015 (1 of 531 accepted papers)
- "Best Paper Honorable Mention," CSCW-2014 (15 of 134 accepted papers)
- "Outstanding Paper Honorable Mention," AAAI-2004 (2 of 121 accepted papers)
- Microsoft Live Labs Fellow, 2006-2008 (full graduate studies tuition plus stipend)

Research Funding [NSF Profile]

$5.03M total funding ($4.19M external): 8 NSF (7 as PI, 1 as co-PI); 1 NEH (co-PI); 1 LA Board of Regents (PI).

role	years	amount (to home univ.)	source	title	co-Is
PI	2025–2026	$119,489 ($119,489)	Answer ALS	Louisiana AI Drug Development Infrastructure for ALS (LADDIA)	Jeffrey Keller (LSU-Pennington)
PI	2025–2026	$20,000 ($20,000)	NSF-IUCRC	IUCRC Planning Grant: Center for Accessible Healthcare through AI-Augmented Decisions (AHeAD)	Zhengming Ding, Saad Hassan, Sylvia Ley, Zizhan Zheng, Jihun Hamm
PI	2024–2027	$1,499,743 ($1,499,743)	NSF-SCC	Supporting Transparency and Equity in the Criminal Legal System through a Community-Driven Digital Platform	Andrea Boyles, Nicholas Mattei, Andrea Armstrong (Loyola), Darrin Browder (Court Watch NOLA)
PI	2025–2027	$176,865 (176,865)	Tulane Murphy Institute	Postdoctoral Scholarship for Supporting Transparency and Equity in the Criminal Legal System through a Community-Driven Digital Platform	Nicholas Mattei
PI	2024–2027	$600,000 ($277,178)	NSF-HCC	Socio-linguistic modeling to understand the long-term dynamics of news engagement in online media	Mustafa Bilgic, Matthew Shapiro IIT
co-PI	2024 2025	$149,618 ($149,618)	NEH	Exploring Artistic Production with the Artistic Network Toolkit (ANT)	Alexis Culotta (PI)
PI	2023–2026	$600,000 ($600,000)	Tulane Office of Research	Tulane Center of Excellence in Community-Engaged Artificial Intelligence	Nick Mattei, Alessandra Bazzano, Caryn Bell, Andrea Boyles, Patrick Button
co-PI	2022–2023	$5,000 ($5,000)	Tulane - Newcomb Institute	Visualizing Raphael's Renaissance Network: A Digital Humanities Collaboration	Alexis Culotta (PI)

role	years	amount (to home univ.)	source	title	co-Is
PI	2023–2023	$25,000 ($19,990)	NSF-IUCRC	IUCRC Planning Grant: Tulane: Center for Applied Artificial Intelligence	Nick Mattei, Allan Ding, Matt Montemore, Jihun Hamm, Henry Chu, Zizhan Zheng
PI	2019–2022	$299,995 ($89,995)	NSF-HDBE *funding rate=14%*	Collaborative Research: Predicting Real-time Population Behavior during Hurricanes Synthesizing Data from Transportation Systems and Social Media	Samiul Hasan, Claire Knox, Naveen Eluru U. Central Florida
co-PI	2019–2021	$299,871 ($299,871)	NSF-IIS-EAGER	Understanding the Relationship between Algorithmic Transparency and Filter Bubbles in Online Media	Mustafa Bilgic (PI) Matthew Shapiro IIT
PI	2019-2020	$25,000 ($25,000)	ERIF (IIT)	Social Media Analysis of Indicators of Eating Disorder Treatment Seeking Behavior	Alissa Haedt-Matt IIT (Psych)
PI	2016–2019	$471,992 ($471,992)	NSF-IIS *funding rate=15%*	Quantifying Multifaceted Perception Dynamics in Online Social Networks	Jennifer Cutler Northwestern-Kellogg
PI	2015–2018	$499,251 ($304,725)	NSF-IIS *funding rate=14%*	Reducing Classifier Bias in Social Media Studies of Public Health	Sherry Emery NORC
co-PI	2016-2017	$100,000 ($100,000)	Nayar II	Cyberbullying Early Warning and Response System	Libby Hemphill U. Michigan
PI	2014	$25,000 ($25,000)	ERIF (IIT)	Tracking perception dynamics in online social networks	Jennifer Cutler Northwestern-Kellogg
PI	2010–2013	$109,587 ($109,587)	Louisiana Board of Regents *ranked 1st of 150 submissions*	Discovering Socially Valuable Trends by Extracting Personal Experiences from the Web	
Total:		**$5,026,411 ($4,294,053)**			

Research Leadership

Director, Tulane Center of Excellence in Community-Engaged Artificial Intelligence (2022-present) [link]: In this role, I lead a multi-disciplinary team of technologists, designers, social scientists, and community partners conducting research into frameworks to create and deploy AI systems that are inclusive, effective, fair, transparent, and accountable. This diverse team brings together complementary expertise to address the socio-technical challenges and opportunities presented by the rapid advancement of AI. The Center builds on a long history of community-engagement at Tulane, exemplified by the Center for Public Service, a key partner in our education initiatives. By joining Tulane faculty expertise with community partners to improve society, the Center aims to serve as a model for responsibly deploying AI research across the country.

Established in 2022 with seed funding from Tulane's Office of Research, the Center leads cross-disciplinary scientific research, facilitates project-based learning experiences, conducts extensive

community outreach, hosts workshops and symposiums, and awards seed grants to support AI research across the university. A recent online profile summarizes this work.
Recent highlights include:

- **External funding:** Center faculty received 3 new federal awards in FY23 totaling $1.35M. Submitted an additional 8 proposals in FY23 totaling $33.59M. I was PI or co-PI on 9 of 11 proposals submitted in FY23.
- **Collaborations:** Worked to expand center collaborations by writing joint proposals with 7 universities (Carnegie Mellon, UC-Boulder, UCLA, Loyola, Illinois Tech, Univ. of Arkansas, UT-Dallas); and with 3 non-profits as co-PIs and Senior Personnel (Court Watch NOLA, Eye on Surveillance, Kiva). The proposals are highly multi-disciplinary, with PIs from 7 disciplines (computer science, public health, sociology, political science, design, art, and law).
- **Publications:** 19 center publications at top venues across disciplines, including MIT Sloan Management Review, Artificial Intelligence, Journal of Medical Internet Research, American Journal of Health Economics, Transactions on Recommender Systems, and Journal of Autonomous Agents and Multiagent Systems
- **Education:** Our approach to education and training is to engage undergraduate students in research projects that have immediate impact. Through Service Learning Senior Capstone courses, which I developed, dozens of students have worked hand-in-hand with local non-profits and Center faculty to apply cutting-edge AI systems to improve access to city council meetings, to monitor equity in the court system, and to track blight across the city.
- **Dissemination, Outreach, Community Building:** We organize community workshops on AI, academic networking events, and a distinguished speaker series. In FY22-23, 25 presentations and panels, 5 workshops, 6 invited lectures, 7 podcasts, and 4 news articles. See more here.
- **Supporting AI at Tulane:** I led two new initiatives: a Community-Engaged AI and Data Science Summer Research Grant Program (3 awardees at $10k each in Summer'24 from SSE, ARCH, SSW) and a CEAI Lunch and Learn Seminar Series (two speakers in Spring'24; four for Fall'24). These are co-sponsored by CAIDS.

Director, Jurist Center for Artificial Intelligence [link]: Established by the generous support of the Harold L. and Heather E. Jurist NC '64 Endowed Fund, the Tulane Center of Excellence in Artificial Intelligence supports research and education in artificial intelligence, machine learning, and data science, with a focus on using AI in applications that pave the way toward a healthier, more connected global community. The Center supports AI-related events at Tulane and beyond, and funds PhD students to conduct summer research in AI. Duties include outreach, donor relations, budgeting, reporting, and administering the summer research program, which funds between 3-7 PhD students each summer.

Publications

19 journal articles, 44 refereed conference proceedings, 18 refereed workshop proceedings

Google Scholar statistics (09/2025): 8,305 citations h-index=39 i10-index=60
https://scholar.google.com/citations?user=481oUzkAAAAJ

A note on conference publications: In computer science, publications in high-quality, archival conference proceedings undergo rigorous peer review and are generally considered the most important measure of research impact. As a report from the Computing Research Association notes, "conference publication is preferred to journal publication, and the premier conferences are generally more selective than the premier journals."[1]
To briefly summarize my publication record, below I list the number of publications in top-tier conferences in each area:

[1]Computing Research Association, "Evaluating Computer Scientists and Engineers for Promotion and Tenure", September 1999.

- **Artificial Intelligence:** AAAI (8), IJCAI (2)
- **Web and Social Media Analysis:** ICWSM (8), ASONAM (2), WWW (2)
- **Natural Language Processing:** HLT/NAACL (5), ACL (1), EMNLP (1)
- **Data Mining/Machine Learning:** ICML (1), KDD (1), ICDM (1), SDM (2), CIKM (1)
- **Human-Computer Interaction:** CHI (1), CSCW (1)

Underlined names below indicated student authors whom I advised or co-advised.

Thesis

T1 **Aron Culotta**. *Learning and inference in weighted logic with application to natural language processing*. PhD thesis, University of Massachusetts, May 2008. (18 citations in Google Scholar).

Journal Publications

J1 **Aron Culotta**, Ginger Zhe Jin, Yidan Sun, and Liad Wagman. Safety reviews on airbnb: An information tale. *Marketing Science*, 2025.

J2 Alexis Culotta and **Aron Culotta**. Artistic Network Toolkit (ANT): Democratizing network modeling in art historical scholarship. *Digital Humanities Quarterly*, 2025. to appear.

J3 Alessandra Bazzano, Andrea Mantsios, Nicholas Mattei, Michael Kosorok, and **Aron Culotta**. Artificial intelligence can be a powerful social innovation for public health, if community engagement is at the core. *Journal of Medical Internet Research*, 2025. (5.8 impact factor); to appear.

J4 Tanmoy Bhowmik, Naveen Eluru, Samiul Hasan, **Aron Culotta**, and Kamol Chandra Roy. Predicting hurricane evacuation behavior synthesizing data from travel surveys and social media. *Transportation Research Part C: Emerging Technologies*, 165:104753, 2024. (7.6 impact factor).

J5 **Aron Culotta** and Nicholas Mattei. Use open source for safer generative AI experiments. *MIT Sloan Management Review*, 65(2), 2023. (4.627 impact factor).

J6 Xintian Li and **Aron Culotta**. Domain adaptation for learning from label proportions using domain-adversarial neural network. *Springer Nature: Computer Science*, 4(5):615, 2023.

J7 Kamol Chandra Roy, Samiul Hasan, **Aron Culotta**, and Naveen Eluru. Predicting traffic demand during hurricane evacuation using real-time data from transportation systems and social media. *Transportation Research Part C: Emerging Technologies*, 131:103339, 2021. (7.6 impact factor; 68 citations in Google Scholar).

J8 Xuan Song, Haoran Zhang, Rajendra A. Akerkar, Huawei Huang, Song Guo, Lei Zhong, Yusheng Ji, Andreas Lothe Opdahl, Hemant Purohit, Andre Supkin, Akshay Pottathil, and **Aron Culotta**. Big data and emergency management: Concepts, methodologies, and applications. *IEEE Transactions on Big Data*, 2020. (7.5 impact factor; 44 citations in Google Scholar).

J9 Jennifer Cutler and **Aron Culotta**. Using weak supervision to scale the development of machine-learning models for social media-based marketing research. *Applied Marketing Analytics*, 5(2), 2019.

J10 Virgile Landeiro and **Aron Culotta**. Robust text classification under confounding shift. *Journal of Artificial Intelligence Research*, 63, 2018. (5 impact factor; 23 citations in Google Scholar).

J11 Ehsan Mohammady Ardehaly and **Aron Culotta**. Learning from noisy label proportions for classifying online social data. *Social Network Analysis and Mining*, 8(1):2–22, 2018. (2.3 impact factor; 12 citations in Google Scholar).

J12 Jennifer Cutler and **Aron Culotta**. Using online social networks to measure consumers' brand perception. *Applied Marketing Analytics*, 2(4):312–321, 2017.

J13 Libby Hemphill, **Aron Culotta**, and Matthew Heston. #Polar scores: Measuring partisanship using social media content. *Journal of Information Technology & Politics*, 1(1):1–13, 2016. (2.6 impact factor; 41 citations in Google Scholar).

J14 **Aron Culotta**. Training a text classifier with a single word using Twitter lists and domain adaptation. *Social Network Analysis and Mining*, 6(1):1–15, 2016. (2.3 impact factor).

J15 **Aron Culotta**, Nirmal Kumar Ravi, and Jennifer Cutler. Predicting Twitter user demographics using distant supervision from website traffic data. *Journal of Artificial Intelligence Research*, 55:389–408, 2016. (5 impact factor; 74 citations in Google Scholar).

J16 **Aron Culotta** and Jennifer Cutler. Mining brand perceptions from Twitter social networks. *Marketing Science*, 2016. (4.0 impact factor; 352 citations in Google Scholar).

J17 **Aron Culotta**, Jennifer Cutler, and Junzhe Zheng. Finding truth in cause-related advertising: A lexical analysis of brands' health, environment, and social justice communications on Twitter. *The Journal of Values-Based Leadership*, 8(2), 2015.

J18 **Aron Culotta**. Lightweight methods to estimate influenza rates and alcohol sales volume from Twitter messages. *Language Resources and Evaluation, Special Issue on Analysis of Short Texts on the Web*, 2013. (1.7 impact factor; 118 citations in Google Scholar).

J19 **Aron Culotta**, Trausti Kristjansson, Andrew McCallum, and Paul Viola. Corrective feedback and persistent learning for information extraction. *Artificial Intelligence*, 170:1101–1122, 2006. (5.1 impact factor; 102 citations in Google Scholar).

Refereed Conference Publications

C1 Linsen Li, **Aron Culotta**, and Nicholas Mattei. Using text-based causal inference to disentangle factors influencing online review ratings. In *Human Language Technology Conference of the North American Chapter of the Association of Computational Linguistics (HLT/NAACL)*, 2025.

C2 Shivaram, Karthik, Mustafa Bilgic, Matthew A Shapiro, and **Culotta, Aron**. Characterizing online criticism of partisan news media using weakly supervised learning. In *Proceedings of the International Conference on Web and Social Media*, 2024.

C3 Shivaram, Karthik, Mustafa Bilgic, Matthew A Shapiro, and **Culotta, Aron**. Forecasting political news engagement on social media. In *Proceedings of the International Conference on Web and Social Media*, 2024.

C4 Liu, Ping, Shivaram, Karthik, **Culotta, Aron**, Matthew A Shapiro, and Mustafa Bilgic. How does empowering users with greater system control affect news filter bubbles? In *Proceedings of the International Conference on Web and Social Media*, 2024.

C5 Linsen Li, **Aron Culotta**, Douglas N. Harris, and Nicholas Mattei. Online reviews are leading indicators of changes in k-12 school attributes. In *Proceedings of the ACM Web Conference*, 2023. (365/1900=19.2% accepted).

C6 Karthik Shivaram, Ping Liu, Matthew Shapiro, Mustafa Bilgic, and **Aron Culotta**. Reducing cross-topic political homogenization in content-based news recommendation. In *Proceedings of the 16th ACM Conference on Recommender Systems*, 2022. (39/231=26.9% accepted; 11 citations in Google Scholar).

C7 Xintian Li, Samiul Hasan, and **Aron Culotta**. Identifying hurricane evacuation intent on twitter. In *Proceedings of the International AAAI Conference on Web and Social Media*, volume 16, pages 618–627, 2022.

C8 Siva K Balasubramanian, Mustafa Bilgic, **Aron Culotta**, Libby Hemphill, Libby, Anita Nikolich, and Matthew A Shapiro. Leaders or followers? a temporal analysis of tweets from ira trolls. In *Proceedings of the International AAAI Conference on Web and Social Media*, volume 16, pages 2–11, 2022.

C9 Ping Liu, Karthik Shivaram, Matthew Shapiro, **Aron Culotta**, and Mustafa Bilgic. The interaction between political typology and filter bubbles in news recommendation algorithms. In *Proceedings of the Web Conference 2021*, 2021. (357/1736=20.6% accepted; 59 citations in Google Scholar).

C10 Zhao Wang and **Aron Culotta**. Robustness to spurious correlations in text classification via automatically generated counterfactuals. In *Proceedings of the Thirty Fifth National Conference on Artificial Intelligence (AAAI 2021)*, 2021. (1,692/7,911=21% accepted; 92 citations in Google Scholar).

C11 Zhao Wang and **Aron Culotta**. Identifying spurious correlations for robust text classification. In *Findings of the Association for Computational Linguistics: EMNLP 2020*, 2020. (66 citations in Google Scholar).

C12 Bahar Radfar, Karthik Shivaram, and **Aron Culotta**. Characterizing variation in toxic language by social context. In *Proceedings of the International AAAI Conference on Web and Social Media*, volume 14, pages 959–963, 2020. (21 citations in Google Scholar).

C13 Zhao Wang and **Aron Culotta**. When do words matter? Understanding the impact of lexical choice on audience perception using individual treatment effect estimation. In *Proceedings of the Thirty Third National Conference on Artificial Intelligence (AAAI 2019)*, 2019. (1150/7095=16% accepted); 14 citations in Google Scholar.

C14 Virgile Landeiro, Tuan Tran, and **Aron Culotta**. Discovering and controlling for latent confounds in text classification using adversarial domain adaptation. In *Proceedings of the SIAM International Conference on Data Mining (SDM19)*, 2019. (90/397=22.7% accepted).

C15 Virgile Landeiro and **Aron Culotta**. Collecting representative samples from a search engine by adaptive query generation. In *Proceedings of the 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, 2019.

C16 Tung Nguyen, Li Zhang, and **Aron Culotta**. Estimating tie strength in follower networks to measure brand perceptions. In *Proceedings of the 2019 International Symposium on Foundations and Applications of Big Data Analytics (ASONAM/FAB)*, 2019.

C17 Zhao Wang, Anna Sapienza, **Aron Culotta**, and Emilio Ferrara. Personality and behavior in role-based online games. In *Proceedings of the 2019 IEEE Conference on Games (COG)*, 2019. 17 citations in Google Scholar.

C18 Ping Liu, Joshua Guberman, Libby Hemphill, and **Aron Culotta**. Forecasting the presence and intensity of hostility on instagram using linguistic and social features. In *Proceedings of the Twelfth International AAAI Conference on Web and Social Media (ICWSM 2018)*, 2018. (48/295=16% accepted; 96 citations in Google Scholar).

C19 Ehsan Ardehaly and **Aron Culotta**. Mining the demographics of political sentiment from Twitter using learning from label proportions. In *Proceedings of the 17th IEEE International Conference on Data Mining (ICDM)*, 2017. (155/778=19.9% accepted; 20 citations in Google Scholar).

C20 Virgile Landeiro and **Aron Culotta**. Controlling for unobserved confounds in classification using correlational constraints. In *Proceedings of the Eleventh International AAAI Conference on Web and Social Media (ICWSM 2017)*, 2017.

C21 Shreesh Kumara Bhat and **Aron Culotta**. Identifying leading indicators of product recalls from online reviews using positive unlabeled learning and domain adaptation. In *Proceedings of the Eleventh International AAAI Conference on Web and Social Media (ICWSM 2017)*, 2017. (24 citations in Google Scholar).

C22 Ehsan Mohammady Ardehaly and **Aron Culotta**. Cold-start recommendations for audio news stories using matrix factorization. In *International Joint Conference on Artificial Intelligence (IJCAI)*, 2016. (573/2294=25% accepted).

C23 Ehsan Mohammady Ardehaly and **Aron Culotta**. Domain adaptation for learning from label proportions using self-training. In *International Joint Conference on Artificial Intelligence (IJCAI)*, 2016. (573/2294=25% accepted; 23 citations in Google Scholar).

C24 Virgile Landeiro and **Aron Culotta**. Robust text classification in the presence of confounding bias. In *Thirtieth National Conference on Artificial Intelligence (AAAI)*, 2016. (549/2132=26% accepted; 52 citations in Google Scholar).

C25 Ehsan Mohammady Ardehaly and **Aron Culotta**. Inferring latent attributes of Twitter users with label regularization. In *Human Language Technology Conference of the North American Chapter of the Association of Computational Linguistics (HLT/NAACL)*, 2015. (117/402=29% accepted; 32 citations in Google Scholar).

C26 Virgile Landeiro Dos Reis and **Aron Culotta**. Using matched samples to estimate the effects of exercise on mental health from Twitter. In *Twenty-ninth National Conference on Artificial Intelligence (AAAI)*, 2015. (531/1991=27% accepted; 65 citations in Google Scholar).

C27 **Aron Culotta**, Nirmal Ravi Kumar, and Jennifer Cutler. Predicting the demographics of Twitter users from website traffic data. In *Twenty-ninth National Conference on Artificial Intelligence (AAAI)*, 2015. (531/1991=27% accepted, **Outstanding Paper Honorable Mention** (given to 1 of 531 accepted papers); 216 citations in Google Scholar).

C28 **Aron Culotta**. Reducing sampling bias in social media data for county health inference. In *JSM Proceedings*, 2014. (52 citations in Google Scholar).

C29 Maria E Ramirez-Loaiza, **Aron Culotta**, and Mustafa Bilgic. Anytime active learning. In *Twenty-eigth National Conference on Artificial Intelligence (AAAI)*, 2014. (398/1406=28% accepted; 14 citations in Google Scholar).

C30 Zahra Ashktorab, Christopher Brown, Manojit Nandi, and **Aron Culotta**. Tweedr: Mining Twitter to inform disaster response. In *the 11th International Conference on Information Systems for Crisis Response and Management (ISCRAM)*, 2014. (46% accepted; 352 citations in Google Scholar).

C31 **Aron Culotta**. Estimating county health statistics with Twitter. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI)*, 2014. (23% accepted; 195 citations in Google Scholar).

C32 Reid Priedhorsky, **Aron Culotta**, and Sara Y. Del Valle. Inferring the origin location of tweets with quantitative confidence. In *17th ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW)*, 2014. (134/497=27% accepted; **Best Paper Honorable Mention** (given to 15 of 134 accepted papers); 141 citations in Google Scholar).

C33 Michael Wick, Khashayar Rohanimanesh, Kedar Bellare, **Aron Culotta**, and Andrew McCallum. Samplerank: Training factor graphs with atomic gradients. In *Proceedings of the International Conference on Machine Learning (ICML)*, 2011. (152/589=26% accepted; 64 citations in Google Scholar).

C34 Michael Wick, **Aron Culotta**, Khashayar Rohanimanesh, and Andrew McCallum. An entity-based model for coreference resolution. In *SIAM International Conference on Data Mining (SDM)*, 2009. (55/351=16% accepted; 57 citations in Google Scholar).

C35 **Aron Culotta**, Michael Wick, Robert Hall, Matthew Marzilli, and Andrew McCallum. Canonicalization of database records using adaptive similarity measures. In *Proceedings of the 13th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, San Jose, CA, 2007. (92/513=18% accepted; 32 citations in Google Scholar).

C36 **Aron Culotta**, Michael Wick, Robert Hall, and Andrew McCallum. First-order probabilistic models for coreference resolution. In *Human Language Technology Conference of the North American Chapter of the Association of Computational Linguistics (HLT/NAACL)*, pages 81–88, 2007. (72/298=24% accepted; 234 citations in Google Scholar).

C37 Michael Wick, **Aron Culotta**, and Andrew McCallum. Learning field compatibilities to extract database records from unstructured text. In *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, pages 603–611, Sydney, Australia, 2006. (18% accepted; 46 citations in Google Scholar).

C38 **Aron Culotta**, Andrew McCallum, and Jonathan Betz. Integrating probabilistic extraction models and data mining to discover relations and patterns in text. In *Human Language Technology Conference of the North American Chapter of the Association of Computational Linguistics (HLT/NAACL)*, pages 296–303, New York, NY, June 2006. (62/257=24% accepted; 295 citations in Google Scholar).

C39 **Aron Culotta** and Andrew McCallum. Joint deduplication of multiple record types in relational data. In *2005 ACM International Conference on Information and Knowledge Management (CIKM)*, pages 257–258, 2005. (106/425=25% accepted; 113 citations in Google Scholar).

C40 **Aron Culotta** and Andrew McCallum. Reducing labeling effort for structured prediction tasks. In *The Twentieth National Conference on Artificial Intelligence (AAAI)*, pages 746–751, Pittsburgh, PA, 2005. (148/803=18% accepted for oral presentation; 548 citations in Google Scholar).

C41 **Aron Culotta** and Jeffery Sorensen. Dependency tree kernels for relation extraction. In *42nd Annual Meeting of the Association for Computational Linguistics (ACL)*, Barcelona, Spain, 2004. (88/348=25% accepted; 1169 citations in Google Scholar).

C42 Trausti Kristjannson, **Aron Culotta**, Paul Viola, and Andrew McCallum. Interactive information extraction with constrained conditional random fields. In *Nineteenth National Conference on Artificial Intelligence (AAAI)*, San Jose, CA, 2004. (121/453=26% accepted, **Outstanding Paper Honorable Mention** (given to 2 of 121 accepted papers); 214 citations in Google Scholar).

C43 **Aron Culotta** and Andrew McCallum. Confidence estimation for information extraction. In *Human Language Technology Conference of the North American Chapter of the Association for Computational Linguistics (HLT/NAACL)*, Boston, MA, 2004. (43/168=26% accepted; 167 citations in Google Scholar).

C44 **Aron Culotta**, Ron Bekkerman, and Andrew McCallum. Extracting social networks and contact information from email and the web. In *First Conference on Email and Anti-Spam (CEAS)*, Mountain View, CA, 2004. (35% accepted; 394 citations in Google Scholar).

Refereed Workshop Publications

W1 Xintian Li and **Aron Culotta**. Forecasting covid-19 vaccination rates using social media data. In *Proceedings of the SocialNLP Workshop at the ACM Web Conference*, 2023.

W2 **Aron Culotta**, Ginger Zhe Jin, Yidan Sun, and Liad Wagman. Safety reviews on airbnb: An information tale. In *The Platform Strategy Research Symposium*, 2022.

W3 Wang, Zhao, Kai Shu, and Aron Culotta. Enhancing model robustness and fairness with causality: A regularization approach. In *EMNLP First Workshop on Causal Inference & NLP*, 2021. (27 citations in Google Scholar).

W4 Ehsan Ardehaly and **Aron Culotta**. Co-training for demographic classification using deep learning from label proportions. In *Proceedings of the ACUMEN Workshop at the 17th IEEE International Conference on Data Mining (ICDM)*, 2017. (68 citations in Google Scholar).

W5 Zhao Wang, Jennifer Cutler, and **Aron Culotta**. Are words commensurate with actions? Quantifying commitment to a cause from online public messaging. In *Proceedings of the ACUMEN Workshop at the 17th IEEE International Conference on Data Mining (ICDM)*, 2017.

W6 **Aron Culotta**. Towards identifying leading indicators of smoking cessation attempts from social media. In *Workshop on Computational Health Science at the IEEE International Conference on Healthcare Informatics*, 2016.

W7 Virgile Landeiro and **Aron Culotta**. Reducing confounding bias in observational studies that use text classification. In *AAAI Spring Symposium on Observational Studies through Social Media and Other Human-Generated Content*, 2016.

W8 Elaine Cristina Resende and **Aron Culotta**. A demographic and sentiment analysis of e-cigarette messages on Twitter. In *Workshop on Computational Health Science at the 6th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics*, 2015.

W9 Ehsan Mohammady and **Aron Culotta**. Using county demographics to infer attributes of Twitter users. In *ACL Joint Workshop on Social Dynamics and Personal Attributes in Social Media*, 2014. (86 citations in Google Scholar).

W10 Maria E. Ramirez-Loaiza, **Aron Culotta**, and Mustafa Bilgic. Towards anytime active learning: Interrupting experts to reduce annotation costs. In *KDD Workshop on Interactive Data Exploration and Analytics (IDEA)*, 2013. (10 citations in Google Scholar).

W11 Francisco Iacobelli and **Aron Culotta**. Too neurotic, not too friendly: Structured personality classification on textual data. In *ICWSM Workshop on Personality Classification*, 2013. (32 citations in Google Scholar).

W12 Benjamin Mandel, **Aron Culotta**, John Boulahanis, Danielle Stark, Bonnie Lewis, and Jeremy Rodrigue. A demographic analysis of online sentiment during Hurricane Irene. In *NAACL-HLT Workshop on Language in Social Media*, 2012. (229 citations in Google Scholar).

W13 **Aron Culotta**. Towards detecting influenza epidemics by analyzing Twitter messages. In *KDD Workshop on Social Media Analytics*, 2010. (**887 citations** in Google Scholar).

W14 Michael Wick, Khashayar Rohanimanesh, **Aron Culotta**, and Andrew McCallum. Samplerank: Learning preferences from atomic gradients. In *Neural Information Processing Systems (NIPS) Workshop on Advances in Ranking*, 2009. (31 citations in Google Scholar).

W15 **Aron Culotta**, Pallika Kanani, Robert Hall, Michael Wick, and Andrew McCallum. Author disambiguation using error-driven machine learning with a ranking loss function. In *Sixth International Workshop on Information Integration on the Web (IIWeb-07)*, Vancouver, Canada, 2007. (123 citations in Google Scholar).

W16 **Aron Culotta** and Andrew McCallum. Tractable learning and inference with high-order representations. In *International Conference on Machine Learning Workshop on Open Problems in Statistical Relational Learning*, Pittsburgh, PA, 2006. (19 citations in Google Scholar).

W17 **Aron Culotta** and Andrew McCallum. Practical markov logic containing first-order quantifiers with application to identity uncertainty. In *Human Language Technology Workshop on Computationally Hard Problems and Joint Inference in Speech and Language Processing (HLT/NAACL)*, June 2006. (12 citations in Google Scholar).

W18 **Aron Culotta** and Andrew McCallum. Learning clusterwise similarity with first-order features. In *Neural Information Processing Systems (NIPS) Workshop on the Theoretical Foundations of Clustering*, Whistler, B.C., December 2005.

Unrefereed Workshop Publications

U1 **Aron Culotta**, Andrew McCallum, Bart Selman, and Ashish Sabharwal. Sparse message passing algorithms for weighted maximum satisfiability. In *New England Student Colloquium on Artificial Intelligence (NESCAI)*, Ithaca, NY, 2007.

Technical Reports

TR1 Libby Hemphill, Aron Culotta, and Matthew Heston. Framing in social media: How the US congress uses twitter hashtags to frame political issues. Technical report, 2013. (99 citations in Google Scholar).

TR2 **Aron Culotta**. Detecting influenza epidemics by analyzing Twitter messages. Technical report, July 2010. (147 citations in Google Scholar).

TR3 **Aron Culotta** and Andrew McCallum. A conditional model of deduplication for multi-type relational data. Technical Report IR-443, University of Massachusetts, September 2005. (14 citations in Google Scholar).

TR4 **Aron Culotta**, David Kulp, and Andrew McCallum. Gene prediction with conditional random fields. Technical Report UM-CS-2005-028, University of Massachusetts, Amherst, April 2005. (58 citations in Google Scholar).

TR5 **Aron Culotta**. Maximizing cascades in social networks. Technical report, University of Massachusetts, 2003. (14 citations in Google Scholar).

Dissemination

Popular Press Mentions of Research

- Profile of Criminal Justice Transparenct project [link], 2024
- Profile of CEAI in the Tulanian [link], 2024
- "Court watchers hope Baton Rogue program can educate public about issues in legal system". Article describing our work with Court Watch NOLA[link], 2024
- "Decoding our chatter", Robert Lee Hotz, *Wall Street Journal*. October 1, 2011.
- "Twitter and Disease Control: The Limits of Algorithmic Prediction". Jared Keller, *TheAtlantic.com*. October 26, 2010.
- "Twitter as Medium and Message", Neil Savage, *Communications of the ACM*. Vol. 54 No. 3, Pages 18–20. 2011.
- "Tracking the flu by tracking tweets", Elizabeth Armstrong Moore, *CNET News*. September 29, 2010.

Invited Talks and Panels

- "Human-Centered AI for Health and Beyond," Ochsner Health, 7/2025
- "Co-Creating Civic AI: Partnering Academia with Local Communities," Virginia Commonwealth University, 5/2025
- "Co-Creating Civic AI: Partnering Academia with Local Communities," NOAI festival, 11/2024

- "Co-Creating Civic AI: Partnering Academia with Local Communities," AI-ML Systems Conference Workshop on Generative AI, 10/2024
- Distinguished Lecturer, Tulane Research, Innovation, and Creativity Summit, "Artificial Intelligence for Social Impact", 04/2024
- Invited speaker, "AI for the people: Unleashing the power of community-engaged AI," Amherst College, 4/2024
- Invited speaker, "AI in Academia, Healthcare, and Research at Tulane and Beyond", Tulane Tech Day, 04/2024
- Invited speaker, "Improving Transparency and Equitability in Criminal Court with AI.", Loyola Law Symposium, 3/2024
- Invited speaker, Lambeth House, seminar on Artificial Intelligence (with N. Mattei), 01/2024
- Panelist "Hacking your minds: Weapons of Influence", Tulane Library, 10/2023
- Panelist, GNO Inc.'s Workforce Summit, "AI is here. What does this mean for training, learning, and the availability of jobs?", 9/2023
- Panelist: "Revolutionizing Higher Education: Exploring the Transformative Power of ChatGPT", Tulane, 3/7/2023
- "Learning about society by mining the web," UIC 2019 CRIM Symposium, 3/20/2019
- "Observational studies over social media with machine learning," Toyota Technology Institute Colloquium, Chicago, 5/22/2017
- "Text classification in the wild," University of Chicago Training Program in Applied Analytics, 3/24/2017
- **Tutorial:** "Mining Personal Traits in Social Media," SIAM International Conference of Data Mining, Miami, FL, 5/5/2016
- "Towards classifier-driven observational studies from social media," Univ. of Chicago, Harris School of Public Policy, 4/27/2016
- "Confounding bias in text classification," AAAI Spring Symposium on Observational Studies through Social Media, 3/21/2016, Stanford University
- "Dealing with confounding variables in web-based health studies," Loyola University, Big Boulder Workshop on Using Social Data for Social Good, 11/6/2015
- "Identifying and controlling for confounders in social media analysis," Northwestern University, Computational Social Science Summit, 5/17/2015
- "Towards web-scale observational studies of health," Johns Hopkins University, Center for Language and Speech Processing, Baltimore, MD, 3/6/2015
- "Investigating public health using Twitter," University of Illinois, Institute for Health Research and Policy, Chicago, IL, 11/4/2014
- "Understanding public health using Twitter," DePaul University, Chicago, IL, 9/12/2014
- "Addressing selection bias in social media for estimating county health statistics," Joint Statistical Meetings, Boston, MA, 8/4/2014
- "Health Informatics and Social Media", Environmental Protection Agency, Cincinnati, OH, 9/23/2013
- "Health Informatics and Disaster Planning using Social Media Analysis", Los Alamos National Labs, Los Alamos, NM, 7/6/2012
- "Health Informatics and Disaster Planning using Social Media Analysis", **Keynote Speaker**, International Field Directors and Technologies Conference (IFD&TC), Orlando, FL, 5/22/2012
- "Health Informatics and Disaster Planning using Social Media Analysis", National Opinion Research Center at the University of Chicago, Chicago, IL 4/9/2012

- "Health Informatics and Disaster Planning using Social Media Analysis", Tulane University Computer Science Seminar Series, New Orleans, LA 3/2/2012

Teaching Experience

- Extensive experience developing innovative curricula in artificial intelligence, data science, and natural language processing.
- Since 2020, 5 new course preps, 4 new course developments/redesigns, including 2 online MS courses. Formal instruction to >30 students per semester, on average.
- 5 graduated PhD students (now at Amazon, U of Chicago, and AI startups); 2 current PhD students (ABD, pre-qualifier stages). Several cross-disciplinary advising, including 3 PhD Committees (2 SPHTM, 1 EES) and independent studies.
- 2-3 Senior Capstone projects mentored per year (6-8 students), plus undergraduate thesis advising.
- Introduced Service Learning section of Senior Capstone, leading students in AI/DS projects to help local non-profits in criminal justice, civic transparency, and education.

Courses at Tulane University (2020-):

- CMPS 2200 Introduction to Algorithms [link]
- CMPS 3140/6140 Introduction to Artificial Intelligence
- CMPS 3160/6160 Introduction to Data Science
- CMPS 4010/4020 Capstone Project I & II
- CMPS 4620/6620 Artificial Intelligence
- CMPS 4730/6730 Natural Language Processing [link]
- CMPS 4890 Service Learning [link]
- CMPS 7980 Natural Language Processing Independent Study (for Public Health PhD Student)

- With Ram Mettu, complete redesign of CMPS 2200 to emphasize parallel algorithms; introduced numerous technologies, including repl.it and GitHub classroom for pair programming.
- Complete overhaul of CMPS 4730/6730 (NLP) to focus on modern neural network approaches.
- Created a Service Learning section for CMPS 4010/4020 to lead capstone projects that collaborate closely with local non-profits on data science / AI projects: `https://tulanecs.github.io/cmps4890/`
- Developed online version of CMPS 6620 (AI) and CMPS 6730 (NLP) for Online MSCS program.

Courses at Illinois Institute of Technology (2013-2020):

- CS429 Information Retrieval [link] — Spring 2014-2016
- CS579 Online Social Network Analysis [link] — Fall 2014-2019 Spring 2018
- CS585 Natural Language Processing [link] — Spring 2017
- CS595 Machine Learning and Social Media [link] — Fall 2013

I introduced and designed CS579 (and the CS595 that preceded it). For CS429 and CS585, I performed a significant redesign of the course.

Student evaluations

Term	Number	Title	Enrolled	Responses	Instructor	Course
Fall 2020	CMPS2200	Intro to Algorithms	23	n/a*	n/a*	n/a*
Spring 2021	CMPS4730/6730	Natural Language Processing	12	5	4.6	4.6
Fall 2021	CMPS4620/6620	Artificial Intelligence	12	7	4.86	5
Spring 2022	CMPS3140/6140	Intro to Artificial Intelligence	33	29	4.66	4.34
Spring 2022	CMPS4890	Service Learning	5	n/a	n/a	n/a
Fall 2022	CMPS3160/6160	Intro to Data Science	36	31	4.77	4.61
Fall 2023	CMPS3160/6160	Intro to Data Science	36	28	4.82	4.71
Spring 2024	CMPS4730/6730	Natural Language Processing	29	12	4.83	4.83
Spring 2024	CMPS6620	Artificial Intelligence	22	12	4.5	4.58
Spring 2025	CMPS4890	Service Learning	6	n/a	n/a	n/a
Spring 2025	CMPS3140/6140	Intro Artificial Intelligence	37	32	4.81	4.45
Spring 2025	CMPS4730/6730	Natural Language Processing	27	16	4.94	4.81
		total	278	**average**	**4.75**	**4.66**

*Teaching evaluation system this semester merged responses from two sections, making it impossible to disaggregate feedback between instructors.

In addition to regular teaching duties, I annually mentor 2-3 Senior Capstone projects (CMPS 4010/4020):

Term	Project	Enrolled	Students
Fall 2020-Spring 2021	Detecting Gender Bias in Reference Letters	3	J Baggett, L Kuperman, L Sussman
	Analyzing Protests from Online Media	2	L Hardy, S Rothman
Fall 2021-Spring 2022	Court Watch NOLA Dashboard	4	B Kahn, I Keshishian, S Fox, V Li
	Families Helping Families Chatbot	3	G Darley, A Messing, D Ngo
Fall 2022-Spring 2023	Court Watch NOLA Dashboard	4	J Licht, A Schoeny, E Sollendar, M Long
	Course Recommendation System	1	J Lehner
Fall 2023-Spring 2024	Criminal Court Bond Prediction	2	W Rodman, B Solansky
	Real Estate Sales Prediction	3	L Albright, L Janko, J Manzer
	City Council Chatbot	3	C Brooks, H Outlaw, M Sison
Fall 2024-Spring 2025	Criminal Court Analytics	4	E Moses, C O'Bert, C Porier, T Simms
	City Council Chatbot	4	S Feldman, C Riviere, A Scarry, Z Wiel
	total	33	(6.6/year)

Between traditional courses and capstone mentoring, I instruct ∼32 students on average per semester.

Student Research Advising

PhD Students

Graduated:

- Xintian Li, 2018-2024 , "Geographical and Temporal Adaptation in Social Media Analysis for Emergency Management and Public Health"
- Karthik Shivaram, 2018-2023 , "Filter Bubbles and Algorithmic Personalization for News Recommendation," Now: Lead Machine Learning Engineer, Wizard AI
- Zhao Wang, 2016-2021 , "Language, Perception, and Causal Inference in Online Communication", Now: Assistant Instructional Professor, University of Chicago
- Virgile Landeiro Dos Reis, 2014-2018 , "Removing confounding bias in text classification", Now: Machine Learning Engineer at Amazon
- Ehsan Mohammady Ardehaly, 2013-2017, "Lightly supervised machine learning for classifying online social data" Now: Data Scientist, CCC Information Services

Current:

- Linsen Li, 2021- (co-advising with Nick Mattei), "Causal Inference with Text"(ABD)
- Kory Rosen, 2024-

Co-Advising / Mentorship:

- Simone Skeen (Tulane Public Health), 2023, "Understanding mental health and Long-Covid from online data"
- Lan Wei, 2018-2019 , "Measuring perception in online social networks"
- Ping Liu "Cyberbullying forecasting," 2016-2017 (one year collaboration for Nayar Prize)

Master's Students (Theses and Projects)

- Shreesh Bhat, "Forecasting product recalls from reviews"
- Rojin Babayan, "Studying immigration through Twitter"
- Michael Drews, "Sports Summarization with Natural Language Generation"
- Olivier Dutfoy, "Fantasy sports forecasting"
- Chihung Hsieh, "Airport wait time estimation using social media"
- Ai Jiang, "Estimating effects of health ads on smoking"
- Mayuri Kadam, "Detecting false health claims online"
- Chandra Kumar, "Image analysis for cyberbullying"
- Silambarasan Madanakumar, "Brand similarity on Twitter"
- Karthik Mani, "Text summarization with Deep learning"
- Harsh Parikh, "Inferring demographics from images"
- Lola Priego, "Financial Prediction from Twitter"
- Thomas Theissier, "Interactive labeling of tweets for classification"
- Bahar Radfar, "Modeling tie strength and online aggression"
- Nirmal Kumar Ravi, "Inferring user demographics from Twitter"
- Than Nguyen, "Removing demographic bias in medical diagnosis systems"
- Victor Saint Guilhem, "Tracking French politics on Twitter"
- Carol Schmitz, "Detecting verbal violence online"
- Cyril Trosset, "Estimating Twitter Demographics"
- Xinzhou Yan, "Learning from label proportions while preserving privacy"
- Sahand Zeinali, "Understanding marijuana use from online content"
- Junzhe Zheng, "Identifying impostors in social media"

Undergraduate Students

In addition to Senior Capstone projects, I also advise undergraduate honor's theses and independent studies:

- Olivia Meyer, "Analyzing 701 Release Laws in Orleans Criminal Court" (Honors Thesis, 2024)
- Sydney Feldman, "Visualizing Artistic Networks," NEH-funded project (2024)
- Caroline Casella, "Visualizing Artistic Networks," Newcomb Institute-funded project (2023)
- Batu El, "Fairness with respect to age in screening algorithms" (Honors Thesis 2023)
- Tum-Tum Adeleye, "Algorithmic Fairness in Public Health" Tulane Research & Innovation Award
- Daniel Ralph, "Filter Bubbles in Online Networks" Tulane Research & Innovation Award
- Xiao Huang, "Twitter bot detection" *github.com/tapilab/is-xhuang1994*
- Yiming Guo, "Identifying hyped memes online" *github.com/tapilab/is-prefixlt*
- Tung Nguyen, "Estimating Tie Strength in Follower Networks to Measure Brand Perceptions"
- Filipe Tabosa, "Personality and Music Tastes" *github.com/tapilab/filipe*
- Tuan Tran, "Controlling for Latent Confounds with Adversarial Domain Adaptation"
- Elaine Resende, "Analysis of e-cigarette messages on Twitter" *github.com/tapilab/chs-2015-ecig*
- Emily Warman, "Understanding demographics of e-cigarette usage"

Thesis committees

- **PhD**: Disa Sariola (N. Mattei, CS), Eric Malamud (L. Shi, Bioinnovation), Taotao Jing (A. Ding, CS), Alan Braeley (J. Whitten, EES), Maria Santos (S. Ley, SPHTM) Simone Skeen (K. Theall, SPHTM), Di Ma (G.

Agam, CS), Maria Ramirez-Loaiza (M. Bilgic, CS), Caner Komurlu (M. Bilgic, CS), Dane Wilburne (S. Petrovic, Applied Math), Xi Rao (L. Hemphill, Humanities), Andrew Roback (L. Hemphill, Humanities), Daniel Giles (S. Laurent-Muehleisen, Physics), Junze Han (X.Y. Li / P.J. Wan, CS)

- **MS**: Matthew Heston (L. Hemphill, Humanities), Mayuri Kadam (A. Culotta), Sahand Zeinali (A. Culotta)
- **BS**: Olivia Meyer, Xiao Huang (A. Culotta), Yiming Guo (A. Culotta)

Service Activities

Events

- **Workshop co-Chair,** Workshop on Participatory AI for Community Engagement (PACE 2024) at HCOMP
- **Organizer:** "Lunch & Learn Series on Community-Engaged Artificial Intelligence", a Tulane seminar series convening scholars working on AI for social impact; Spring 2024 - present
- **Co-Organizer:** (with ULL faculty): "Exploring the Transformative Impact of Applied AI on Health Outcomes", 4/23/2024, a workshop to foster industry-university research, Ochsner Health
- **Co-Organizer:** (with CEAI faculty): "Artificial Intelligence: Risks and Benefits for Local Communities", 4/28/2023, a community workshop, Tulane
- **Co-Organizer:** (with Nick Mattei, Jihun Hamm, Brian Summa, and others): Gulf Coast AI Social at NeurIPS, 12/2022 and 12/2023
- **Organizer:** Planning Workshop, "Center for Applied Artificial Intelligence", part of IUCRC program, 10/27/2022
- **Co-Organizer:** (with Nick Mattei, Edson Cabalfin): "Data x Community x Design", 4/28/2022, a community workshop, Tulane
- **Organizer:** Artificial Intelligence Employer Roundtable, GNO, Inc., 3/28/2022
- **Workshop Organizer**, WSDM 2017 Workshop on Mining Online Health Reports

Professional Service

- **Proposal Review Panelist:** NSF Smart and Connected Health, NSF Fairness in AI, NSF Small Business Innovation Research programs, NEH Digging into Data Challenge
- **Action Editor:** Association for Computational Linguistics Rolling Review, 2021-
- **Program co-Chair:** ICWSM 2020
- **Steering Committee:** ICWSM
- **Faculty Mentor:** ICWSM
- **Area Chair and Senior Program Committees:** AAAI (2017-), ICHI (2017-), IJCAI (2019-), ICWSM (2019-), WebSci (2024-)
- **Panelist,** National Science Foundation, IIS and CCF
- **Managing Editor**, Journal of Machine Learning Research, 2008-2018
- **Editor**, Journal of Medical Internet Research, Special Issue on Mining Health Reports, 2017-
- **Publications Chair**, Neural Information Processing Systems Conference, 2009-2011
- **Online Proceedings Chair**, Neural Information Processing Systems Conference, 2007-2011
- **Program Committee:** AAAI, ACL, CoNLL, ICML, IJCAI, KDD, NAACL/HLT, NLP4Science Workshop
- **Reviewing:** NIPS, UAI, AISTATS, IEEE Trans. on Knowledge Engineering, IEEE Trans. on Audio, Speech and Language Processing, IEEE Trans. on Information Systems.

University Service

In addition to typical department and school service, I have also developed undergrad and graduate AI degrees (IIT); served on the committee to establish a School of Computing at IIT;

chaired the search committee for 4 tenure-track hires in CS (2021-2024); and served on Tulane University committees to establish a Data Science institute, to guide AI research initiatives, and to advise investments in computational infrastructure for AI research.

Tulane University (2020-):

- **University Service:**
  - Provost's Committee on Generative AI for Research, Member (2023-2024): Helped shape university strategy for how to leverage Generative AI for transforming academic research.
  - Tulane High Performance Computing Planning Committee, Member (2024-): Advise IT on hardware investments to support AI research
  - Tulane Innovation Institute, Expert Judge, Pitch Competition (2022, 2023)
  - Data Hub Implementation Committee (2022-)
  - Data Literacy Quality Enhancement Plan Committee (2021-2022): Helped guide the creation of new initiatives to expand data science education and research across the university (resulting in the Connolly Alexander Institute for Data Science).
  - AI Working Group - School of Public Health and Tropical Medicine (2024-): Advise on expanding AI research and education in the school, organizing speakers and symposia, etc.
- **School of Science and Engineering Service:**
  - SSE Promotion and Tenure Committee (2023-2025)
  - SSE Graduate Studies Committee (2022-2023)
  - SSE Strategic Initiatives Committee (2022-)
- **Department of Computer Science Service:**
  - CS Faculty Search Chair (2021-2024)
  - CS Promotion and Tenure Committee (2020-)
  - CS Graduate Studies Committee (2020-)
  - CS Committee of Processes (2024-)

Illinois Institute of Technology (2013-2020):

- **University Service:**
  - College of Computing study committee, 2017-2020
  - AI Ethics Working Group Co-Chair, 2019-2020
  - CAMRAS scholarship interviewer, 2018
- **Department of Computer Science Service:**
  - co-Director, B.S. in Artificial Intelligence
  - co-Director, Masters in Artificial Intelligence
    - helped develop and launch two new Artificial Intelligence degrees
  - Graduate studies committee, 2013-2018
  - Undergraduate studies committee, 2019-2020
  - Seminar and DLS co-coordinator, 2014-2020
  - Faculty search committee, 2016-2019
  - Admissions committee, 2015-2016

APPENDIX B: PRIOR TESTIMONY IN THE LAST FOUR YEARS

US DOMINION, INC., DOMINION VOTING SYSTEMS, INC., and DOMINION VOTING SYSTEMS CORPORATION v. NEWSMAX MEDIA INC., SUPERIOR COURT FOR THE STATE OF DELAWARE, Case No.: N21C-08-063 EMD

APPENDIX C: MATERIALS CONSIDERED

Legal Filings

- Lively v. Wayfarer Studios, et al., 1:24-cv-10049 (ECF No. 1)
- Lively v. Wayfarer Studios, et al., 1:24-cv-10049 (ECF No. 50)
- Lively v. Wayfarer Studios, et al., 1:24-cv-10049 (ECF No. 84)
- Lively v. Wayfarer Studios, et al., 1:24-cv-10049 (ECF No. 296)
- Lively v. Wayfarer Studios, et al., 1:24-cv-10049 (ECF No. 520)
- Wayfarer Studios, et al. v. Lively, et al., 1:25-cv-00449 (ECF No. 1)
- Second Amended Complaint

Depositions

- Deposition Transcript of Alexandria Saks, dated 2025-09-24
- Deposition Transcript of Andrea Giannetti, dated 2025-09-23
- Deposition Transcript of Andrew Chrisomalis, dated 2025-09-24
- Deposition Transcript of Ashley Soevyn, dated 2025-10-03
- Deposition Transcript of Blake Lively, dated 2025-07-31
- Deposition Transcript of Breanna Koslow, dated 2025-09-09
- Deposition Transcript of Danny Greenberg, dated 2025-09-19
- Deposition Transcript of Elizabeth Talbot, dated 2025-08-21
- Deposition Transcript of Family Hive LLC, dated 2025-09-29
- Deposition Transcript of Gordon Duren, dated 2025-09-23
- Deposition Transcript of Isabela Ferrer, dated 2025-09-30
- Deposition Transcript of Jennifer Abel, dated 2025-09-25
- Deposition Transcript of Jennifer Abel, dated 2025-09-26
- Deposition Transcript of Jenny Slate, dated 2025-09-26
- Deposition Transcript of Josh Greenstein, dated 2025-09-30
- Deposition Transcript of Justin Baldoni, dated 2025-10-06
- Deposition Transcript of Justin Baldoni, dated 2025-10-07
- Deposition Transcript of Justine Harris, dated 2025-09-30
- Deposition Transcript of Katherine Case, dated 2025-09-05
- Deposition Transcript of Kevin Alexander, dated 2025-09-29
- Deposition Transcript of Leslie Sloane, dated 2025-09-26
- Deposition Transcript of Margaret Colleen Hoover, dated 2025-09-29
- Deposition Transcript of Melissa Nathan, dated 2025-09-29
- Deposition Transcript of Shelley Anne Carroll, dated 2025-09-25
- Deposition Transcript of Stephanie Jones, dated 2025-09-16
- Deposition Transcript of Steve Sarowitz, dated 2025-10-03
- Deposition Transcript of Tera Hanks, dated 2025-09-08

- Deposition Transcript of Vivian Baker, dated 2025-09-12
- Deposition Transcript of Warren Zavala, dated 2025-09-18
- Deposition Transcript of Jamey Heath, dated 2025-10-08
- Deposition Transcript of Jamey Heath, dated 2025-10-09
- Deposition Transcript of Jed Wallace, dated 2025-10-09
- Deposition Transcript of Jed Wallace, dated 2025-10-10

Bates Stamped Documents

- ABEL_000005094
- CHURLEY_00000020
- JONESWORKS_00013647
- KCASE-000000174
- KCASE-000001093
- KCASE-000001540
- KCASE-000003354
- KCASE-000003856
- KCASE-000004802
- NATHAN_000002694
- STREET 1.000007
- STREET 1.000084
- STREET 1.000087
- STREET 3.000204

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Backup Data

- TikTok Analysis:
    - TikTok - Posts and Comments.xlsx
    - TikTok - Sentiment Validation Sample.xlsx
- Fauxmoi Analysis:
    - r_fauxmoi_comments0501-0831.jsonl
    - r_fauxmoi_posts0501-0831.jsonl
    - Fauxmoi Posts and Comments.xlsx
    - August 14 Fauxmoi Analysis.xlsx
    - Fauxmoi Statistical Tests.xlsx
- YouTube Analysis:
    - Little Bump Comment Analysis.xlsx