

References

- [1] S. Jo Dixon, “Social media - statistics & facts,” Statista. Accessed: Jan. 14, 2025. [Online]. Available: <https://www.statista.com/topics/1164/social-networks/>
- [2] “Digital 2025 July Global Statshot Report — DataReportal – Global Digital Insights.” Accessed: Aug. 01, 2025. [Online]. Available: <https://datareportal.com/reports/digital-2025-july-global-statshot>
- [3] “Digital 2025: Sri Lanka — DataReportal – Global Digital Insights.” Accessed: Aug. 01, 2025. [Online]. Available: <https://datareportal.com/reports/digital-2025-sri-lanka>
- [4] “Social Media Stats Sri Lanka,” StatCounter Global Stats. Accessed: Jan. 14, 2025. [Online]. Available: <https://gs.statcounter.com/social-media-stats/all/sri-lanka/>
- [5] I. Vogel and M. Meghana, “Profiling Hate Speech Spreaders on Twitter: SVM vs. Bi-LSTM,” p. 8.
- [6] SELMA Partners, “The consequences of online hate speech – a teenager’s perspective | SELMA Hacking Hate,” hackinghate.eu. Accessed: Mar. 11, 2021. [Online]. Available: <https://hackinghate.eu/news/the-consequences-of-online-hate-speech-a-teenager-s-perspective/>
- [7] M. Chandra, “Towards A More Holistic Approach On Online Abuse and Antisemitism,” PhD Thesis, International Institute of Information Technology Hyderabad, 2021. [Online]. Available: https://precog.iiitd.edu.in/Publications_files/mohit_chandra_masters_thesis_jan_2021.pdf
- [8] “Hate Speech on Social Media: Global Comparisons | Council on Foreign Relations.” Accessed: Jan. 14, 2025. [Online]. Available: <https://www.cfr.org/backgrounder/hate-speech-social-media-global-comparisons>
- [9] J. Kastrenakes, “Facebook will reduce reach of ‘sensationalist and provocative’ content - The Verge,” [theverge.com](https://www.theverge.com). Accessed: Mar. 11, 2021. [Online]. Available: <https://www.theverge.com/2018/11/15/18097402/facebook-borderline-sensationalist-provocative-content-algorithm-changes>
- [10] “Freedom of Speech, Not Reach: An update on our enforcement philosophy.” Accessed: Nov. 10, 2024. [Online]. Available: https://blog.x.com/en_us/topics/product/2023/freedom-of-speech-not-reach-an-update-on-our-enforcement-philosophy
- [11] N. Lomas, “Facebook, Google, Twitter Commit To Hate Speech Action In Germany,” [TechCrunch.com](https://social.techcrunch.com). Accessed: Sep. 08, 2021. [Online]. Available: <https://social.techcrunch.com/2015/12/16/germany-fights-hate-speech-on-social-media/>
- [12] B. Gambäck and U. K. Sikdar, “Using Convolutional Neural Networks to Classify Hate-Speech,” in *Proceedings of the First Workshop on Abusive Language Online*, Vancouver, BC, Canada: Association for Computational Linguistics, 2017, pp. 85–90. doi: 10.18653/v1/W17-3013.
- [13] M. Das, B. Mathew, P. Saha, P. Goyal, and A. Mukherjee, “Hate speech in online social media,” *ACM SIGWEB Newsletter*, no. Autumn, pp. 1–8, 2020.
- [14] A. Aghababayan, “Government Blocking of Social Media Platforms as Expropriation of Contractual Rights,” Website. Accessed: Jan. 14, 2025. [Online]. Available: <http://itainreview.org/articles/2023/vol5/Issue3/government-blocking-of-socialmedia-platforms.html>
- [15] Y. Wijeratne, “The Control of Hate Speech on Social Media: Lessons from Sri Lanka,” *SSRN Journal*, 2018, doi: 10.2139/ssrn.3275106.

- [16] “Hate speech policy - YouTube Help,” support.google.com. Accessed: Sep. 09, 2021. [Online]. Available: <https://support.google.com/youtube/answer/2801939?hl=en>
- [17] “Hate speech | Transparency Centre,” transparency.fb.com. Accessed: Sep. 09, 2021. [Online]. Available: <https://transparency.fb.com/en-gb/policies/community-standards/hate-speech/>
- [18] “Twitter’s policy on hateful conduct | Twitter Help,” help.twitter.com. Accessed: Jul. 12, 2021. [Online]. Available: <https://help.twitter.com/en/rules-and-policies/hateful-conduct-policy>
- [19] R. Alshalan and H. Al-Khalifa, “A Deep Learning Approach for Automatic Hate Speech Detection in the Saudi Twittersphere,” *Applied Sciences*, vol. 10, no. 23, p. 8614, Dec. 2020, doi: 10.3390/app10238614.
- [20] J. Gallacher and J. Bright, “Hate Contagion: Measuring the spread and trajectory of hate on social media,” *PsyArXiv*, 2021, doi: 10.31234/osf.io/b9qhd.
- [21] R. McIlroy-Young and A. Anderson, “From ‘welcome new gabbers’ to the pittsburgh synagogue shooting: The evolution of gab,” in *Proceedings of the international aaai conference on web and social media*, 2019, pp. 651–654.
- [22] A. A. Siegel, “Online hate speech,” *Social Media and Democracy: The State of the Field, Prospects for Reform*, pp. 56–88, 2020.
- [23] L. Lima *et al.*, “Inside the Right-Leaning Echo Chambers: Characterizing Gab, an Unmoderated Social System,” *arXiv:1807.03688 [cs]*, Jul. 2018, Accessed: Oct. 09, 2021. [Online]. Available: <http://arxiv.org/abs/1807.03688>
- [24] B. Mathew, R. Dutt, P. Goyal, and A. Mukherjee, “Spread of Hate Speech in Online Social Media,” in *Proceedings of the 10th ACM Conference on Web Science - WebSci '19*, Boston, Massachusetts, USA: ACM Press, 2019, pp. 173–182. doi: 10.1145/3292522.3326034.
- [25] B. Mathew, A. Illendula, P. Saha, S. Sarkar, P. Goyal, and A. Mukherjee, “Hate begets hate: A temporal study of hate speech,” *Proceedings of the ACM on Human-Computer Interaction*, vol. 4, no. CSCW2, pp. 1–24, 2020.
- [26] M. Chaudhary and H. Kumar, “A Framework to Rank Nodes in Social Media Graph Based on Sentiment-Related Parameters,” in *Proceedings of International Conference on ICT for Sustainable Development*, vol. 409, S. C. Satapathy, A. Joshi, N. Modi, and N. Pathak, Eds., in *Advances in Intelligent Systems and Computing*, vol. 409. , Singapore: Springer Singapore, 2016, pp. 271–279. doi: 10.1007/978-981-10-0135-2_26.
- [27] H. Kumar and H. Kaur, “Clustering and ranking social media users based on temporal analysis,” in *2017 International Conference on Infocom Technologies and Unmanned Systems (Trends and Future Directions) (ICTUS)*, Dubai: IEEE, Dec. 2017, pp. 271–275. doi: 10.1109/ICTUS.2017.8286018.
- [28] C. F. Reilly, D. Salinas, and D. D. Leon, “Ranking Users Based on Influence in a Directional Social Network,” in *2014 International Conference on Computational Science and Computational Intelligence*, Las Vegas, NV, USA: IEEE, Mar. 2014, pp. 237–240. doi: 10.1109/CSCI.2014.127.
- [29] M. Cha, H. Haddadi, F. Benevenuto, and K. Gummadi, “Measuring User Influence in Twitter: The Million Follower Fallacy,” in *Proceedings of the international AAAI conference on web and social media*, vol. 4, no. 1, p. 8, 2010.
- [30] H. Kwak, C. Lee, H. Park, and S. Moon, “What is Twitter, a social network or a news media?,” in *Proceedings of the 19th international conference on World wide web - WWW*

- '10, Raleigh, North Carolina, USA: ACM Press, 2010, p. 591. doi: 10.1145/1772690.1772751.
- [31] A. Arora, S. Bansal, C. Kandpal, R. Aswani, and Y. Dwivedi, "Measuring social media influencer index-insights from Facebook, Twitter and Instagram," *Journal of Retailing and Consumer Services*, vol. 49, pp. 86–101, 2019.
 - [32] E. Bakshy, J. M. Hofman, W. A. Mason, and D. J. Watts, "Everyone's an influencer: quantifying influence on twitter," in *Proceedings of the fourth ACM international conference on Web search and data mining*, Hong Kong China: ACM, Feb. 2011, pp. 65–74. doi: 10.1145/1935826.1935845.
 - [33] "OHCHR | International Covenant on Civil and Political Rights," Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966 entry into force 23 March 1976, in accordance with Article 49. Accessed: Sep. 09, 2021. [Online]. Available: <https://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx>
 - [34] E. Participation, "Human Rights Act 1998." Accessed: Sep. 09, 2021. [Online]. Available: <https://www.legislation.gov.uk/ukpga/1998/42/schedule/1>
 - [35] Organization of American State, "American convention on human rights 'pact of san jose, costa rica' (b-32)." Accessed: Sep. 09, 2021. [Online]. Available: https://www.oas.org/dil/treaties_b-32_american_convention_on_human_rights.pdf
 - [36] African Commission on Human and Peoples' Rights, "African (Banjul) charter on human and peoples' rights." Accessed: Sep. 09, 2021. [Online]. Available: <https://www.achpr.org/legalinstruments/detail?id=49>
 - [37] "The constitution of the democratic socialist republic of Sri Lanka - Chapter iii - Fundamental rights." Accessed: Sep. 09, 2021. [Online]. Available: <https://www.ilo.org/dyn/travail/docs/1683/CHAPTER%20III%20CONSTITUTION.pdf>
 - [38] G. Gunatilleke, "Justifying Limitations on the Freedom of Expression," *Hum Rights Rev*, vol. 22, no. 1, pp. 91–108, Mar. 2021, doi: 10.1007/s12142-020-00608-8.
 - [39] Article 19 (Organization), Ed., *An agenda for change: the right to freedom of expression in Sri Lanka*. London: Article 19, 1994.
 - [40] S. Samararatunge and S. Hattotuwa, Eds., *Liking violence A study of hate speech on Facebook in Sri Lanka*. Colombo, Sri Lanka: Centre for Policy Alternatives, 2018. [Online]. Available: <https://www.cpalanka.org/wp-content/uploads/2014/09/Hate-Speech-Final.pdf>.
 - [41] "ONLINE SAFETY ACT, No. 9 OF 2024." Gazette of the Democratic Socialist Republic of Sri Lanka, Feb. 02, 2024. Accessed: Sep. 26, 2024. [Online]. Available: <https://www.parliament.lk/uploads/acts/gbills/english/6311.pdf>
 - [42] D. C. Nunziato, "The Marketplace of Ideas Online," *SSRN Journal*, 2019, doi: 10.2139/ssrn.3405381.
 - [43] D. E. Ho and F. Schauer, "TESTING THE MARKETPLACE OF IDEAS," *NEW YORK UNIVERSITY LAW REVIEW*, vol. 90.
 - [44] J. Waldron, *The harm in hate speech*, First Harvard University Press paperback edition. Cambridge, Massachusetts London, England: Harvard University Press, 2014.
 - [45] Z. Zhang and L. Luo, "Hate speech detection: A solved problem? The challenging case of long tail on Twitter," *SW*, vol. 10, no. 5, pp. 925–945, Sep. 2019, doi: 10.3233/SW-180338.
 - [46] U. N. H. C. for H. R. OHCHR, "Annual report of the United Nations High Commissioner for Human Rights." United Nations, Jan. 11, 2013. Accessed: Sep. 12, 2021. [Online]. Available: https://www.ohchr.org/Documents/Issues/Opinion/SeminarRabat/Rabat_draft_outcome.pdf

- [47] Rochelle Anushini Bartholomeusz, “Inspire Intrapreneurship through Management Support - The New Competitive Edge,” *Int. j. eng. manag. res.*, vol. 11, no. 2, pp. 109–115, Apr. 2021, doi: 10.31033/ijemr.11.2.16.
- [48] R. Fan, K. Xu, and J. Zhao, “Higher contagion and weaker ties mean anger spreads faster than joy in social media,” 2016, doi: arXiv preprint arXiv:1608.03656.
- [49] A. Mislove, M. Marcon, K. P. Gummadi, P. Druschel, and B. Bhattacharjee, “Measurement and analysis of online social networks,” in *Proceedings of the 7th ACM SIGCOMM conference on Internet measurement - IMC '07*, San Diego, California, USA: ACM Press, 2007, p. 29. doi: 10.1145/1298306.1298311.
- [50] A. Landherr, B. Friedl, and J. Heidemann, “A Critical Review of Centrality Measures in Social Networks,” *Bus Inf Syst Eng*, vol. 2, no. 6, pp. 371–385, Dec. 2010, doi: 10.1007/s12599-010-0127-3.
- [51] S. Stieglitz, M. Mirbabaie, B. Ross, and C. Neuberger, “Social media analytics – Challenges in topic discovery, data collection, and data preparation,” *International Journal of Information Management*, vol. 39, pp. 156–168, Apr. 2018, doi: 10.1016/j.ijinfomgt.2017.12.002.
- [52] S. P. Borgatti, “Centrality and network flow,” *Social Networks*, vol. 27, no. 1, pp. 55–71, Jan. 2005, doi: 10.1016/j.socnet.2004.11.008.
- [53] E. Deutschmann, “The Spatial Structure of Transnational Human Activity,” *arXiv:1501.05921 [physics]*, Jan. 2015, Accessed: Dec. 21, 2021. [Online]. Available: <http://arxiv.org/abs/1501.05921>
- [54] B. J. D. S. CNN, “On Facebook, it’s now 4.74 degrees of separation,” CNN. Accessed: Dec. 21, 2021. [Online]. Available: <https://www.cnn.com/2011/11/22/tech/social-media/facebook-six-degrees/index.html>
- [55] J. Wohlgemuth, M. T. Matache, and University of Nebraska at Omaha, “Small-World Properties of Facebook Group Networks,” *ComplexSystems*, vol. 23, no. 3, pp. 197–226, Oct. 2014, doi: 10.25088/ComplexSystems.23.3.197.
- [56] L. Zhang and W. Tu, “Six Degrees of Separation in Online Society,” p. 5.
- [57] K. Das, S. Samanta, and M. Pal, “Study on centrality measures in social networks: a survey,” *Soc. Netw. Anal. Min.*, vol. 8, no. 1, p. 13, Dec. 2018, doi: 10.1007/s13278-018-0493-2.
- [58] L. C. Freeman, “Centrality in social networks conceptual clarification,” *Social Networks*, vol. 1, no. 3, pp. 215–239, Jan. 1978, doi: 10.1016/0378-8733(78)90021-7.
- [59] B. Ruhnau, “Eigenvector-centrality — a node-centrality?,” *Social Networks*, pp. 357–365, 2000.
- [60] A. J. Oroh, Y. Bandung, and L. M. Zagi, “Detection of the Key Actor of Issues Spreading Based on Social Network Analysis in Twitter Social Media,” in *2021 IEEE Asia Pacific Conference on Wireless and Mobile (APWiMob)*, Bandung, Indonesia: IEEE, Apr. 2021, pp. 206–212. doi: 10.1109/APWiMob51111.2021.9435268.
- [61] S. A. Catanese, P. De Meo, E. Ferrara, G. Fiumara, and A. Provetti, “Crawling Facebook for social network analysis purposes,” in *Proceedings of the International Conference on Web Intelligence, Mining and Semantics - WIMS '11*, Sogndal, Norway: ACM Press, 2011, p. 1. doi: 10.1145/1988688.1988749.
- [62] S. K. Maity, B. Ghuku, A. Upmanyu, and A. Mukherjee, “Out of Vocabulary Words Decrease, Running Texts Prevail and Hashtags Coalesce: Twitter as an Evolving Sociolinguistic System,” in *2016 49th Hawaii International Conference on System Sciences (HICSS)*, Koloa, HI, USA: IEEE, Jan. 2016, pp. 1681–1690. doi: 10.1109/HICSS.2016.212.

- [63] D. Zeevi, "Twitter Cheat Sheet: How to Increase Your Engagement [INFOGRAPHIC]," *Social Media Today*. Accessed: Dec. 06, 2022. [Online]. Available: <https://www.socialmediatoday.com/content/twitter-cheat-sheet-how-increase-your-engagement-infographic>
- [64] S. Perera, I. Perera, and S. Ahangama, "Influence Rank of Hate Users in Twitter: An Analysis during Sri Lanka's Political and Economic Crisis," in *2023 3rd International Conference on Advanced Research in Computing (ICARC)*, Belihuloya, Sri Lanka: IEEE, Feb. 2023, pp. 148–153. doi: 10.1109/ICARC57651.2023.10145632.
- [65] D. Xue *et al.*, "Personality Recognition on Social Media With Label Distribution Learning," *IEEE Access*, vol. 5, pp. 13478–13488, 2017, doi: 10.1109/ACCESS.2017.2719018.
- [66] Z. M. M. Aung and P. H. Myint, "Personality Prediction Based on Content of Facebook Users: A Literature Review," in *2019 20th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD)*, Toyama, Japan: IEEE, Jul. 2019, pp. 34–38. doi: 10.1109/SNPD.2019.8935692.
- [67] L. R. Goldberg, "An Alternative 'Description of Personality': The Big-Five Factor Structure," no. 23, p. 14, 1990.
- [68] Y. Bachrach, M. Kosinski, T. Graepel, P. Kohli, and D. Stillwell, "Personality and Patterns of Facebook Usage," in *WebSci '12: Proceedings of the 4th Annual ACM Web Science Conference*, Evanston, IL, USA, Jun. 2012, pp. 24–32. doi: 10.1145/2380718.2380722.
- [69] S. Stajner and S. Yenikent, "A Survey of Automatic Personality Detection from Texts," in *Proceedings of the 28th International Conference on Computational Linguistics*, Barcelona, Spain (Online, Dec. 2020, pp. 6284–6295.
- [70] Y. R. Tausczik and J. W. Pennebaker, "The Psychological Meaning of Words: LIWC and Computerized Text Analysis Methods," in *Journal of Language and Social Psychology*, 2010 SAGE Publications, 2010, pp. 24–54. doi: 10.1177/0261927X09351676.
- [71] M. M. Tadesse, H. Lin, B. Xu, and L. Yang, "Personality Predictions Based on User Behavior on the Facebook Social Media Platform," *IEEE Access*, vol. 6, pp. 61959–61969, 2018, doi: 10.1109/ACCESS.2018.2876502.
- [72] M. ElSherief, S. Nilizadeh, D. Nguyen, G. Vigna, and E. Belding, "Peer to Peer Hate: Hate Speech Instigators and Their Targets," *Proceedings of the Twelfth International AAAI Conference on Web and Social Media (ICWSM 2018)*, p. 10, 2018.
- [73] V. Ong, A. D. S. Rahmanto, and D. Suhartono, "Exploring Personality Prediction from Text on Social Media: A Literature Review," vol. 9, no. 1, p. 7, 2017.
- [74] M. Coltheart, "The MRC Psycholinguistic Database," *The Quarterly Journal of Experimental Psychology Section A*, vol. 33, no. 4, pp. 497–505, Nov. 1981, doi: 10.1080/14640748108400805.
- [75] B. Mathew, N. Kumar, P. Goyal, and A. Mukherjee, "Analyzing the hate and counter speech accounts on Twitter," *arXiv preprint arXiv:1812.02712*, p. 11, 2018.
- [76] C. Sumner, A. Byers, R. Boochever, and G. J. Park, "Predicting Dark Triad Personality Traits from Twitter Usage and a Linguistic Analysis of Tweets," in *2012 11th International Conference on Machine Learning and Applications*, Boca Raton, FL, USA: IEEE, Dec. 2012, pp. 386–393. doi: 10.1109/ICMLA.2012.218.
- [77] J. Golbeck, C. Robles, M. Edmondson, and K. Turner, "Predicting Personality from Twitter," in *2011 IEEE Third Int'l Conference on Privacy, Security, Risk and Trust and 2011 IEEE Third Int'l Conference on Social Computing*, Boston, MA, USA: IEEE, Oct. 2011, pp. 149–156. doi: 10.1109/PASSAT/SocialCom.2011.33.

- [78] T. Tandra, Hendro, D. Suhartono, R. Wongso, and Y. L. Prasetyo, "Personality Prediction System from Facebook Users," *Procedia Computer Science*, vol. 116, pp. 604–611, 2017, doi: 10.1016/j.procs.2017.10.016.
- [79] H. A. Schwartz *et al.*, "Personality, Gender, and Age in the Language of Social Media: The Open-Vocabulary Approach," *PLoS ONE*, vol. 8, no. 9, p. e73791, Sep. 2013, doi: 10.1371/journal.pone.0073791.
- [80] G. Farnadi, S. Zoghbi, M.-F. Moens, and M. D. Cock, "Recognising Personality Traits Using Facebook Status Updates," *In Proceedings of the International AAAI Conference on Web and Social Media*, vol. 7, p. 6, 2013.
- [81] S. Masud *et al.*, "Hate is the New Infodemic: A Topic-aware Modeling of Hate Speech Diffusion on Twitter," in *2021 IEEE 37th International Conference on Data Engineering (ICDE)*, IEEE, 2021, pp. 504–515.
- [82] S. Dash, R. Grover, G. Shekhawat, S. Kaur, D. Mishra, and J. Pal, "Insights Into Incitement: A Computational Perspective on Dangerous Speech on Twitter in India," Nov. 06, 2021, *arXiv*: arXiv:2111.03906. Accessed: Jul. 16, 2024. [Online]. Available: <http://arxiv.org/abs/2111.03906>
- [83] V. Goel, D. Sahnian, S. Dutta, A. Bandhakavi, and T. Chakraborty, "Hatemonsters ride on echo chambers to escalate hate speech diffusion," *PNAS Nexus*, vol. 2, no. 3, p. pgad041, Mar. 2023, doi: 10.1093/pnasnexus/pgad041.
- [84] B. He, C. Ziems, S. Soni, N. Ramakrishnan, D. Yang, and S. Kumar, "Racism is a virus: anti-asian hate and counterspeech in social media during the COVID-19 crisis," in *Proceedings of the 2021 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, Virtual Event Netherlands: ACM, Nov. 2021, pp. 90–94. doi: 10.1145/3487351.3488324.
- [85] Facebook, "Community Standards," facebook.com. Accessed: Sep. 10, 2021. [Online]. Available: https://www.facebook.com/communitystandards/objectionable_content
- [86] R. Allan, "Hard Questions: Who Should Decide What Is Hate Speech in an Online Global Community? | Meta," about.fb.com. Accessed: Nov. 12, 2021. [Online]. Available: <https://about.fb.com/news/2017/06/hard-questions-hate-speech/>
- [87] United Nations, "Freedom of Expression in Sri Lanka (HRC31, 2016, WS) | IMADR: International Movement Against All Forms of Discrimination and Racism," imadr.org. Accessed: Nov. 12, 2021. [Online]. Available: <https://imadr.org/freedom-of-expression-in-sri-lanka-hrc31-2016-ws/>
- [88] Amnesty International, "Freedom of Expression - Amnesty International," amnesty.org. Accessed: Nov. 12, 2021. [Online]. Available: <https://www.amnesty.org/en/what-we-do/freedom-of-expression/>
- [89] J. Wakefield, "Sri Lanka attacks: The ban on social media - BBC News," bbc.com. Accessed: Nov. 12, 2021. [Online]. Available: <https://www.bbc.com/news/technology-48022530>
- [90] E. Stewart, "Sri Lanka blocks social media: shutdown shows Facebook can't be trusted - Vox," vox.com. Accessed: Nov. 12, 2021. [Online]. Available: <https://www.vox.com/2019/4/23/18511640/facebook-sri-lanka-bombing-social-media-attack>
- [91] PARLIAMENT OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA, "ONLINE SAFETY ACT, No. 9 OF 2024." a Supplement to Part II of the Gazette of the Democratic Socialist Republic of Sri Lanka of February 02, 2024, Feb. 01, 2024. Accessed:

- Dec. 30, 2024. [Online]. Available: https://parliament.lk/uploads/acts/gbills/english/6311.pdf?utm_source=chatgpt.com
- [92] “Sri Lanka’s controversial internet safety law comes into force,” Feb. 01, 2024. Accessed: Dec. 30, 2024. [Online]. Available: <https://www.bbc.com/news/world-asia-68163414>
- [93] M. E. Hayden, “Facebook Has Failed to Stop Anti-Muslim Hate Groups, Despite Mark Zuckerberg Pledge,” *newsweek.com*. Accessed: Oct. 18, 2021. [Online]. Available: <https://www.newsweek.com/faceboook-anti-muslim-hate-groups-890338>
- [94] “Counterspeech.” Accessed: Oct. 18, 2021. [Online]. Available: <https://counterspeech.fb.com/en/>
- [95] A. Guterres, “United Nations Strategy and Plan of Action on Hate Speech.” United Nations. Accessed: Sep. 11, 2021. [Online]. Available: https://www.un.org/en/genocideprevention/documents/UN%20Strategy%20and%20PoA%20on%20Hate%20Speech_Guidance%20on%20Addressing%20in%20field.pdf
- [96] S. Benesch, “Dangerous Speech: A Proposal to Prevent Group Violence.” Jan. 12, 2012. Accessed: Sep. 11, 2021. [Online]. Available: <http://worldpolicy.org/wp-content/uploads/2016/01/Dangerous-Speech-Guidelines-Benesch-January-2012.pdf>
- [97] Council of Europe, “Toolkit for analysing a case of hate speech Beginners guide.” Sep. 2018. Accessed: Sep. 11, 2021. [Online]. Available: <https://rm.coe.int/beginners-guide-toolkit-how-to-analyse-hate-speech/1680a217ce>
- [98] “The PRISMA 2020 statement: an updated guideline for reporting systematic reviews | The BMJ.” Accessed: Jul. 18, 2024. [Online]. Available: <https://www.bmj.com/content/372/bmj.n71>
- [99] “PRISMA 2020 explanation and elaboration: updated guidance and exemplars for reporting systematic reviews | The BMJ.” Accessed: Jul. 18, 2024. [Online]. Available: <https://www.bmj.com/content/372/bmj.n160>
- [100] A. Essaidi, D. Zaidouni, and M. Bellafkih, “New method to measure the influence of Twitter users,” in *2020 Fourth International Conference On Intelligent Computing in Data Sciences (ICDS)*, Fez, Morocco: IEEE, Oct. 2020, pp. 1–5. doi: 10.1109/ICDS50568.2020.9268726.
- [101] N. Singh, A. Malik, O. Maini, and G. Rajput, “Identification of Influence Propagation Metrics in Social Networks,” in *2019 International Conference on Automation, Computational and Technology Management (ICACTM)*, London, United Kingdom: IEEE, Apr. 2019, pp. 224–227. doi: 10.1109/ICACTM.2019.8776752.
- [102] Z. Li, Y. Zhao, T. Duan, and J. Dai, “Configurational patterns for COVID-19 related social media rumor refutation effectiveness enhancement based on machine learning and fsQCA,” *Information Processing & Management*, vol. 60, no. 3, p. 103303, May 2023, doi: 10.1016/j.ipm.2023.103303.
- [103] R. E. Bacha and T. Thi Zin, “Ranking of Influential users based on User-Tweet bipartite graph,” in *2018 IEEE International Conference on Service Operations and Logistics, and Informatics (SOLI)*, Singapore: IEEE, Jul. 2018, pp. 97–101. doi: 10.1109/SOLI.2018.8476770.
- [104] A. P. Logan, P. M. LaCasse, and B. J. Lunday, “Social network analysis of Twitter interactions: a directed multilayer network approach,” *Soc. Netw. Anal. Min.*, vol. 13, no. 1, p. 65, Apr. 2023, doi: 10.1007/s13278-023-01063-2.
- [105] “Mathew et al. - Temporal effects of Unmoderated Hate speech in Gab.pdf.”
- [106] K. Subbian and P. Melville, “Supervised Rank Aggregation for Predicting Influencers in Twitter,” in *2011 IEEE Third Int’l Conference on Privacy, Security, Risk and Trust and 2011*

- IEEE Third Int'l Conference on Social Computing*, Boston, MA, USA: IEEE, Oct. 2011, pp. 661–665. doi: 10.1109/PASSAT/SocialCom.2011.167.
- [107]H. S. Saini, R. Sayal, A. Govardhan, and R. Buyya, Eds., *Innovations in Computer Science and Engineering: Proceedings of the Tenth ICICSE, 2022*, vol. 565. in *Lecture Notes in Networks and Systems*, vol. 565. Singapore: Springer Nature Singapore, 2023. doi: 10.1007/978-981-19-7455-7.
- [108]B. Rezaie, M. Zahedi, and H. Mashayekhi, “Measuring time-sensitive user influence in Twitter,” *Knowl Inf Syst*, vol. 62, no. 9, pp. 3481–3508, Sep. 2020, doi: 10.1007/s10115-020-01459-y.
- [109]University of Computer Studies, M. Oo, M. Lwin, and University of Computer Studies, “Detecting Influential Users in a Trending Topic Community Using Link Analysis Approach,” *IJIES*, vol. 13, no. 6, pp. 178–188, Dec. 2020, doi: 10.22266/ijies2020.1231.16.
- [110]M. M. Muñoz, M.-M. Rojas-de-Gracia, and C. Navas-Sarasola, “Measuring engagement on twitter using a composite index: An application to social media influencers,” *Journal of Informetrics*, vol. 16, no. 4, p. 101323, Nov. 2022, doi: 10.1016/j.joi.2022.101323.
- [111]E. Arviv, S. Hanouna, and O. Tsur, “It’s a Thin Line Between Love and Hate: Using the Echo in Modeling Dynamics of Racist Online Communities,” *ICWSM*, vol. 15, pp. 61–70, May 2021, doi: 10.1609/icwsml.v15i1.18041.
- [112]N. Arhachoui, E. Bautista, M. Danisch, and A. Giovanidis, “A Fast Algorithm for Ranking Users by their Influence in Online Social Platforms,” Oct. 20, 2022, *arXiv*: arXiv:2206.09960. Accessed: Mar. 11, 2024. [Online]. Available: <http://arxiv.org/abs/2206.09960>
- [113]N. Ayman, T. F. Gharib, M. Hamdy, and Y. Afify, “Influence Ranking Model for Social Networks Users,” in *The International Conference on Advanced Machine Learning Technologies and Applications (AMLTA2019)*, vol. 921, A. E. Hassanien, A. T. Azar, T. Gaber, R. Bhatnagar, and M. F. Tolba, Eds., in *Advances in Intelligent Systems and Computing*, vol. 921. , Cham: Springer International Publishing, 2020, pp. 928–937. doi: 10.1007/978-3-030-14118-9_91.
- [114]H. Bo, R. McConville, J. Hong, and W. Liu, “Social Network Influence Ranking via Embedding Network Interactions for User Recommendation,” in *Companion Proceedings of the Web Conference 2020*, Taipei Taiwan: ACM, Apr. 2020, pp. 379–384. doi: 10.1145/3366424.3383299.
- [115]Y. Wang *et al.*, “A Multiple Features Fusion based Node Importance Measure for Rumor Control in Social Networks,” Jan. 09, 2023. doi: 10.21203/rs.3.rs-2413320/v1.
- [116]S. Sinha, S. Bhattacharya, and S. Roy, “Impact of second-order network motif on online social networks,” *J Supercomput*, vol. 78, no. 4, pp. 5450–5478, Mar. 2022, doi: 10.1007/s11227-021-04079-7.
- [117]K. Berahmand, A. Bouyer, and N. Samadi, “A new local and multidimensional ranking measure to detect spreaders in social networks,” *Computing*, vol. 101, no. 11, pp. 1711–1733, Nov. 2019, doi: 10.1007/s00607-018-0684-8.
- [118]H. Zhao, X. Xu, Y. Song, D. L. Lee, Z. Chen, and H. Gao, “Ranking Users in Social Networks with Motif-based PageRank,” Dec. 26, 2019, *arXiv*: arXiv:1912.11817. Accessed: Jul. 18, 2024. [Online]. Available: <http://arxiv.org/abs/1912.11817>
- [119]D. Mittal, P. Suthar, M. Patil, P. G. S. Pranaya, D. P. Rana, and B. Tidke, “Social Network Influencer Rank Recommender Using Diverse Features from Topical Graph,” *Procedia Computer Science*, vol. 167, pp. 1861–1871, 2020, doi: 10.1016/j.procs.2020.03.205.

- [120]R. Gnanakumari and P. Vijayalakshmi, “Binomial regressive influence behavior ranking for virtual community formation in social network,” *Natural Sciences Publishing*, vol. 13, no. 6, pp. 935–943, Nov. 2019.
- [121]V. Visansirikul and S. Kitisin, “Identifying Influencers with Ensemble Classification Approach on Twitter,” in *2018 22nd International Computer Science and Engineering Conference (ICSEC)*, Chiang Mai, Thailand: IEEE, Nov. 2018, pp. 1–4. doi: 10.1109/ICSEC.2018.8712720.
- [122]C. Ni, D. Liu, and S. Yan, “The Research of Micro-blog User Influence Ranking Algorithm SDD-rank,” presented at the Advanced Information Technology, Electronic and Automation Control Conference, 2018.
- [123]A. Dhali, S. S. Gomasta, M. M. Anwar, and I. H. Sarker, “Attribute-driven Topical Influential Users Detection in Online Social Networks,” in *2020 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE)*, Gold Coast, Australia: IEEE, Dec. 2020, pp. 1–5. doi: 10.1109/CSDE50874.2020.9411637.
- [124]L. Abu Daher, I. Elkabani, and R. Zantout, “Identifying Influential Users on Twitter’s Trendy Hashtags Using Association Rule Learning,” in *2018 International Conference on Computational Science and Computational Intelligence (CSCI)*, Las Vegas, NV, USA: IEEE, Dec. 2018, pp. 1293–1296. doi: 10.1109/CSCI46756.2018.00250.
- [125]J. Luo, Y. Du, R. Li, and F. Cheng, “Identification of Opinion Leaders by Using Social Network Embedding,” in *2019 IEEE 5th International Conference on Computer and Communications (ICCC)*, Dec. 2019, pp. 1412–1416. doi: 10.1109/ICCC47050.2019.9064180.
- [126]J. Chen, Y. Deng, Z. Su, S. Wang, C. Gao, and X. Li, “Identifying Multiple Influential Users Based on the Overlapping Influence in Multiplex Networks,” *IEEE Access*, vol. 7, pp. 156150–156159, 2019, doi: 10.1109/ACCESS.2019.2949678.
- [127]M. Roy and I. Pan, “Most Influential Node Selection in Social Network using Genetic Algorithm,” in *2018 Fourth International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN)*, Nov. 2018, pp. 214–220. doi: 10.1109/ICRCICN.2018.8718693.
- [128]X. Zhao, F. Liu, S. Xing, and Q. Wang, “Identifying Influential Spreaders in Social Networks Via Normalized Local Structure Attributes,” *IEEE Access*, vol. 6, pp. 66095–66104, 2018, doi: 10.1109/ACCESS.2018.2879116.
- [129]Y. Mao, L. Zhou, and N. Xiong, “TPS: A Topological Potential Scheme to Predict Influential Network Nodes for Intelligent Communication in Social Networks,” *IEEE Trans. Netw. Sci. Eng.*, vol. 8, no. 1, pp. 529–540, Jan. 2021, doi: 10.1109/TNSE.2020.3044299.
- [130]L. Zhang, X. Sun, P. Wang, J. Hou, and G. Sun, “Identifying Influential Nodes with a Community Structure Measure,” in *2019 IEEE Fourth International Conference on Data Science in Cyberspace (DSC)*, Hangzhou, China: IEEE, Jun. 2019, pp. 264–269. doi: 10.1109/DSC.2019.00047.
- [131]L.-L. Shi, L. Liu, Y. Wu, L. Jiang, J. Panneerselvam, and R. Crole, “A Social Sensing Model for Event Detection and User Influence Discovering in Social Media Data Streams,” *IEEE Trans. Comput. Soc. Syst.*, vol. 7, no. 1, pp. 141–150, Feb. 2020, doi: 10.1109/TCSS.2019.2938954.
- [132]G. Wang, S. B. Alias, Z. Sun, F. Wang, A. Fan, and H. Hu, “Influential nodes identification method based on adaptive adjustment of voting ability,” *Heliyon*, vol. 9, no. 5, p. e16112, May 2023, doi: 10.1016/j.heliyon.2023.e16112.

- [133]B. Tidke, R. Mehta, and J. Dhanani, “Consensus-based aggregation for identification and ranking of top-k influential nodes,” *Neural Comput & Applic*, vol. 32, no. 14, pp. 10275–10301, Jul. 2020, doi: 10.1007/s00521-019-04568-0.
- [134]Z. Li, W. Piao, Z. Sun, L. Wang, X. Wang, and W. Li, “User Real-Time Influence Ranking Algorithm of Social Networks Considering Interactivity and Topicality,” *Entropy*, vol. 25, no. 6, p. 926, Jun. 2023, doi: 10.3390/e25060926.
- [135]L. Hong, Y. Qian, C. Gong, Y. Zhang, and X. Zhou, “Improved Key Node Recognition Method of Social Network Based on PageRank Algorithm,” *Computers, Materials & Continua*, vol. 74, no. 1, pp. 1887–1903, 2023, doi: 10.32604/cmc.2023.029180.
- [136]P. Li, K. Liu, K. Li, J. Liu, and D. Zhou, “Estimating user influence ranking in independent cascade model,” *Physica A: Statistical Mechanics and its Applications*, vol. 565, p. 125584, Mar. 2021, doi: 10.1016/j.physa.2020.125584.
- [137]Z. Wang and X. Zi, “Analysis of Microblog User Influence Based on Multivariate Interaction Counting Framework Model,” in *2021 4th International Conference on Artificial Intelligence and Big Data (ICAIBD)*, Chengdu, China: IEEE, May 2021, pp. 515–519. doi: 10.1109/ICAIBD51990.2021.9459020.
- [138]S. Peng, F. Liu, D. Gong, and J. Xu, “Social User Influence Measurement Algorithm Based on Multi-perspectives Analysis,” in *2020 6th International Conference on Big Data and Information Analytics (BigDIA)*, Shenzhen, China: IEEE, Dec. 2020, pp. 220–227. doi: 10.1109/BigDIA51454.2020.00043.
- [139]J.-H. Wang and P.-H. Lin, “Modeling Implicit User Relations with Information Propagation Graph for User Influence Prediction,” in *2021 30th Wireless and Optical Communications Conference (WOCC)*, Oct. 2021, pp. 183–187. doi: 10.1109/WOCC53213.2021.9603006.
- [140]M. Alshahrani, Z. Fuxi, A. Sameh, S. Mekouar, and S. Huang, “Top-K influential users selection based on combined Katz centrality and propagation probability,” in *2018 IEEE 3rd International Conference on Cloud Computing and Big Data Analysis (ICCCBDA)*, Chengdu: IEEE, Apr. 2018, pp. 52–56. doi: 10.1109/ICCCBDA.2018.8386486.
- [141]L. Alkulaib, A. Alhamadani, S. Sarkar, and C.-T. Lu, “HyperTwitter: A Hypergraph-based Approach to Identify Influential Twitter Users and Tweets,” in *2022 IEEE International Conference on Big Data (Big Data)*, Osaka, Japan: IEEE, Dec. 2022, pp. 693–700. doi: 10.1109/BigData55660.2022.10020571.
- [142]S. Masuda and T. Yamasaki, “Key Factor Analysis of Influencer Popularity based on Adjective and Emotion in Twitter User Opinions,” in *2023 IEEE International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT)*, Venice, Italy: IEEE, Oct. 2023, pp. 263–267. doi: 10.1109/WI-IAT59888.2023.00041.
- [143]D.-T. Ngo *et al.*, “Identifying Micro-influencers on Social Media using User Graph Construction Approach,” in *2021 13th International Conference on Knowledge and Systems Engineering (KSE)*, Bangkok, Thailand: IEEE, Nov. 2021, pp. 1–6. doi: 10.1109/KSE53942.2021.9648780.
- [144]A. Bhuiya, K. Chowdhury, S. Nandi, and A. Dutta, “Semi-Global Circular Centrality to find Influential Spreaders,” in *2023 15th International Conference on COMMunication Systems & NETworkS (COMSNETS)*, Bangalore, India: IEEE, Jan. 2023, pp. 483–485. doi: 10.1109/COMSNETS56262.2023.10041382.
- [145]C. Saravanas, G. Drakopoulos, A. Kanavos, E. Kafeza, and C. Makris, “Discovering Influential Twitter Authors Via Clustering And Ranking On Apache Storm,” in *2021 12th*

- International Conference on Information, Intelligence, Systems & Applications (IISA)*, Jul. 2021, pp. 1–8. doi: 10.1109/IISA52424.2021.9555528.
- [146] C. Liu, P. Wang, and A. Chen, “Identifying Influential Spreaders in Complex Networks by an Improved Spectralrank Algorithm,” in *2021 40th Chinese Control Conference (CCC)*, Shanghai, China: IEEE, Jul. 2021, pp. 736–741. doi: 10.23919/CCC52363.2021.9550378.
- [147] A. Namtirtha, A. Dutta, and B. Dutta, “Weighted kshell degree neighborhood method: An approach independent of completeness of global network structure for identifying the influential spreaders,” in *2018 10th International Conference on Communication Systems & Networks (COMSNETS)*, Bengaluru: IEEE, Jan. 2018, pp. 81–88. doi: 10.1109/COMSNETS.2018.8328183.
- [148] A. M. Samir, S. Rady, and T. F. Gharib, “An Efficient Community-based Approach for the Influence Maximization Problem in Social Networks,” in *2021 Tenth International Conference on Intelligent Computing and Information Systems (ICICIS)*, Cairo, Egypt: IEEE, Dec. 2021, pp. 335–340. doi: 10.1109/ICICIS52592.2021.9694235.
- [149] M. Horani, A. Alsmadi, M. Al-Ayyoub, and Y. Jararweh, “Measuring user influence in a co-reviewer network,” in *2018 9th International Conference on Information and Communication Systems (ICICS)*, Irbid: IEEE, Apr. 2018, pp. 227–232. doi: 10.1109/IACS.2018.8355472.
- [150] A. Elwood, A. Gasparin, and A. Rozza, “Ranking Micro-Influencers: a Novel Multi-Task Learning and Interpretable Framework,” in *2021 IEEE International Symposium on Multimedia (ISM)*, Naple, Italy: IEEE, Nov. 2021, pp. 130–137. doi: 10.1109/ISM52913.2021.00030.
- [151] K. Chowdhury, A. Paul, and A. Dutta, “CancelOut GCN Diffusion(CoutGCN): Finding the Influential Spreaders to Diffuse Information,” in *2023 15th International Conference on COMmunication Systems & NETworkS (COMSNETS)*, Bangalore, India: IEEE, Jan. 2023, pp. 368–372. doi: 10.1109/COMSNETS56262.2023.10041335.
- [152] J. Vap and P. Kogge, “RIMR: Reverse Influence Maximization Rank,” in *2024 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW)*, San Francisco, CA, USA: IEEE, May 2024, pp. 805–814. doi: 10.1109/IPDPSW63119.2024.00146.
- [153] N. Norfarah, A. K. Siti-Nabiha, and M. A. Samsudin, “Social Network Analysis to Identify Influencer in Twitter Conversation on SMEs in Times of Covid-19 Pandemic,” in *Financial Technology (FinTech), Entrepreneurship, and Business Development*, vol. 486, B. Alareeni and A. Hamdan, Eds., in *Lecture Notes in Networks and Systems*, vol. 486, Cham: Springer International Publishing, 2022, pp. 439–452. doi: 10.1007/978-3-031-08087-6_31.
- [154] W. Sen, B. Zhang, T. Li, H. Lv, S. Hu, and Y. Peng, “Evaluation method of user comprehensive influence based on analytic hierarchy process,” in *2021 International Conference on Artificial Intelligence and Electromechanical Automation (AIEA)*, Guangzhou, China: IEEE, May 2021, pp. 348–355. doi: 10.1109/AIEA53260.2021.00080.
- [155] Y. Yang, W. Yao, and D. Wang, “Ranking the Influence of Micro-blog Users Based on Activation Forwarding Relationship,” in *Collaborative Computing: Networking, Applications and Worksharing*, vol. 252, I. Romdhani, L. Shu, H. Takahiro, Z. Zhou, T. Gordon, and D. Zeng, Eds., in *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, vol. 252, Cham: Springer International Publishing, 2018, pp. 383–393. doi: 10.1007/978-3-030-00916-8_36.

- [156]T. Tong, W. Yuan, M. Jalili, Q. Dong, and J. Sun, "A novel ranking approach for identifying crucial spreaders in complex networks based on Tanimoto Correlation," *Expert Systems with Applications*, vol. 255, p. 124513, Dec. 2024, doi: 10.1016/j.eswa.2024.124513.
- [157]F. Riquelme and J.-A. Vera, "A parameterizable influence spread-based centrality measure for influential users detection in social networks," *Knowledge-Based Systems*, vol. 257, p. 109922, Dec. 2022, doi: 10.1016/j.knosys.2022.109922.
- [158]Y. Shi, P. Quan, Y. Xiao, M. Lei, and L. Niu, "Graph Influence Network," *IEEE Trans. Cybern.*, vol. 53, no. 10, pp. 6146–6159, Oct. 2023, doi: 10.1109/TCYB.2022.3164474.
- [159]W. Liu, P. Lu, and T. Zhang, "Identifying Influential Nodes in Complex Networks From Semi-Local and Global Perspective," *IEEE Trans. Comput. Soc. Syst.*, vol. 11, no. 2, pp. 2105–2120, Apr. 2024, doi: 10.1109/TCSS.2023.3295177.
- [160]W. Hu, F. Yang, X. Mao, R. Chen, K. Fan, and J. Xie, "Ranking the spreading influence of nodes in weighted networks by combining node2vec and weighted K-Shell decomposition," in *2024 4th International Conference on Neural Networks, Information and Communication (NNICE)*, Guangzhou, China: IEEE, Jan. 2024, pp. 588–597. doi: 10.1109/NNICE61279.2024.10498757.
- [161]B. Tidke, R. Mehta, and J. Dhanani, "SIRIF: Supervised influence ranking based on influential network," *IFS*, vol. 35, no. 2, pp. 1225–1237, Aug. 2018, doi: 10.3233/JIFS-169667.
- [162]Z. Zengin Alp and Ş. Gündüz Ögüdücü, "Identifying topical influencers on twitter based on user behavior and network topology," *Knowledge-Based Systems*, vol. 141, pp. 211–221, Feb. 2018, doi: 10.1016/j.knosys.2017.11.021.
- [163]N. Bhat, N. Aggarwal, and S. Kumar, "Identification of Influential Spreaders in Social Networks using Improved Hybrid Rank Method," *Procedia Computer Science*, vol. 171, pp. 662–671, 2020, doi: 10.1016/j.procs.2020.04.072.
- [164]V. Rao. K. and C. R. Chowdary, "K++ Shell: Influence maximization in multilayer networks using community detection," *Computer Networks*, vol. 234, p. 109916, Oct. 2023, doi: 10.1016/j.comnet.2023.109916.
- [165]I. Khatri, A. Choudhry, A. Rao, A. Tyagi, D. K. Vishwakarma, and M. Prasad, "Influence Maximization in social networks using discretized Harris' Hawks Optimization algorithm," *Applied Soft Computing*, vol. 149, p. 111037, Dec. 2023, doi: 10.1016/j.asoc.2023.111037.
- [166]Y. Li, T. Lu, W. Li, and P. Zhang, "HCKShell: A heterogeneous cross-comparison improved Kshell algorithm for Influence Maximization," *Information Processing & Management*, vol. 61, no. 3, p. 103681, May 2024, doi: 10.1016/j.ipm.2024.103681.
- [167]X. Gong, H. Wang, X. Wang, C. Chen, W. Zhang, and Y. Zhang, "Influence maximization on hypergraphs via multi-hop influence estimation," *Information Processing & Management*, vol. 61, no. 3, p. 103683, May 2024, doi: 10.1016/j.ipm.2024.103683.
- [168]M. Alshahrani, F. Zhu, S. Mekouar, M. Y. Alghamdi, and S. Liu, "Identification of Top-K Influencers Based on Upper Confidence Bound and Local Structure," *Big Data Research*, vol. 25, p. 100208, Jul. 2021, doi: 10.1016/j.bdr.2021.100208.
- [169]M. Gupta and R. Mishra, "Spreading the information in complex networks: Identifying a set of top-N influential nodes using network structure," *Decision Support Systems*, vol. 149, p. 113608, Oct. 2021, doi: 10.1016/j.dss.2021.113608.
- [170]Z. Acharoui, A. Alaoui, B. Ettaki, J. Zerouaoui, and M. Dakkon, "Identifying Political Influencers on YouTube during the 2016 Moroccan General Election," *Procedia Computer Science*, vol. 170, pp. 1102–1109, 2020, doi: 10.1016/j.procs.2020.03.061.

- [171]U. Ishfaq, H. U. Khan, and S. Iqbal, "Identifying the influential nodes in complex social networks using centrality-based approach," *Journal of King Saud University - Computer and Information Sciences*, vol. 34, no. 10, pp. 9376–9392, Nov. 2022, doi: 10.1016/j.jksuci.2022.09.016.
- [172]A. Zareie, A. Sheikahmadi, M. Jalili, and M. S. K. Fasaei, "Finding influential nodes in social networks based on neighborhood correlation coefficient," *Knowledge-Based Systems*, vol. 194, p. 105580, Apr. 2020, doi: 10.1016/j.knosys.2020.105580.
- [173]S. Iqbal, R. Khan, H. Ullah Khan, F. Khaled Alarfaj, A. Mohammed Alomair, and M. Ahmed, "Association Rule Analysis-Based Identification of Influential Users in the Social Media," *Computers, Materials & Continua*, vol. 73, no. 3, pp. 6479–6493, 2022, doi: 10.32604/cmc.2022.030881.
- [174]M. Zhang, D. Zhang, Y. Zhang, K. Yeager, and T. N. Fields, "An exploratory study of Twitter metrics for measuring user influence," *Journal of Informetrics*, vol. 17, no. 4, p. 101454, Nov. 2023, doi: 10.1016/j.joi.2023.101454.
- [175]A. Srour, H. Ould-Slimane, A. Mourad, H. Harmanani, and C. Jenainati, "Joint theme and event based rating model for identifying relevant influencers on Twitter: COVID-19 case study," *Online Social Networks and Media*, vol. 31, p. 100226, Sep. 2022, doi: 10.1016/j.osnem.2022.100226.
- [176]Z. Z. Alp and Ş. G. Ögüdücü, "Influence Factorization for identifying authorities in Twitter," *Knowledge-Based Systems*, vol. 163, pp. 944–954, Jan. 2019, doi: 10.1016/j.knosys.2018.10.020.
- [177]G. Maji and S. Sen, "Ranking influential nodes in complex network using edge weight degree based shell decomposition," *Journal of Computational Science*, vol. 74, p. 102179, Dec. 2023, doi: 10.1016/j.jocs.2023.102179.
- [178]L. Chen *et al.*, "Identifying influential nodes in complex networks via Transformer," *Information Processing & Management*, vol. 61, no. 5, p. 103775, Sep. 2024, doi: 10.1016/j.ipm.2024.103775.
- [179]H. Zhao, X. Xu, Y. Song, D. L. Lee, Z. Chen, and H. Gao, "Ranking Users in Social Networks With Higher-Order Structures," *AAAI*, vol. 32, no. 1, Apr. 2018, doi: 10.1609/aaai.v32i1.11287.
- [180]X. Tang, Q. Miao, S. Yu, and Y. Quan, "A Data-Based Approach to Discovering Multi-Topic Influential Leaders," *PLoS ONE*, vol. 11, no. 7, p. e0158855, Jul. 2016, doi: 10.1371/journal.pone.0158855.
- [181]Y. Tang, "Critical Analysis of Elon Musk's takeover of Twitter," *BCPBM*, vol. 39, pp. 247–252, Feb. 2023, doi: 10.54691/bcpbm.v39i.4071.
- [182]"Twitter API Documentation." Accessed: Jan. 01, 2025. [Online]. Available: <https://developer.x.com/en/docs/x-api>
- [183]R. Murtfeldt, N. Alterman, I. Kahveci, and J. D. West, "RIP Twitter API: A eulogy to its vast research contributions," Apr. 10, 2024, *arXiv*: arXiv:2404.07340. doi: 10.48550/arXiv.2404.07340.
- [184]S. Perera, N. Meedin, M. Caldera, I. Perera, and S. Ahangama, "A comparative study of the characteristics of hate speech propagators and their behaviours over Twitter social media platform," *Heliyon*, vol. 9, no. 8, p. e19097, Aug. 2023, doi: 10.1016/j.heliyon.2023.e19097.
- [185]G. S. N. Meedin, H. M. M. Caldera, and I. Perera, "A User Experience Measuring Technique to Moderate Social Media Content Through Crowdsourcing," in *2020 From Innovation to*

- Impact (FITI)*, Colombo, Sri Lanka: IEEE, Dec. 2020, pp. 1–6. doi: 10.1109/FITI52050.2020.9424911.
- [186] F. Miró-Llinares, A. Moneva, and M. Esteve, “Hate is in the air! But where? Introducing an algorithm to detect hate speech in digital microenvironments,” *Crime Sci*, vol. 7, no. 1, p. 15, Dec. 2018, doi: 10.1186/s40163-018-0089-1.
- [187] W. A. S. N. Perera, I. Perera, and S. Ahangama, “HATE SPEECH DETECTION ON SINHALA SOCIAL MEDIA TEXT USING LSTM AND FASTTEXT,” in *OURS 2021*, Colombo, Sri Lanka. [Online]. Available: https://ours.ou.ac.lk/wp-content/uploads/2021/10/ID-174_HATE-SPEECH-DETECTION-ON-SINHALA-SOCIAL-MEDIA-TEXT-USING-LSTM-AND-FASTTEXT.pdf
- [188] R. P. Fernando, *Sinhalese Language based Hate Speech Detection*. (Jul. 11, 2023). Jupyter Notebook. Accessed: Dec. 09, 2023. [Online]. Available: https://github.com/renukafernando/sinhalese_language_racism_detection
- [189] D. Lakmal, S. Ranathunga, S. Peramuna, and I. Herath, “Word Embedding Evaluation for Sinhala,” p. 8.
- [190] S. W. A. M. D. Samarasinghe, R. G. N. Meegama, and M. Punchimudiyanse, “Machine Learning Approach for the Detection of Hate Speech in Sinhala Unicode Text,” presented at the 2020 20th International Conference on Advances in ICT for Emerging Regions (ICTer), Colombo, Sri Lanka: IEEE, Nov. 2020. doi: 10.1109/ICTer51097.2020.9325493.
- [191] W. S. S. Fernando, R. Weerasinghe, and E. R. A. D. Bandara, “Sinhala Hate Speech Detection in Social Media Using Machine Learning and Deep Learning,” presented at the 2022 22nd International Conference on Advances in ICT for Emerging Regions (ICTer), Colombo, Sri Lanka: IEEE, Jan. 2023. doi: 10.1109/ICTer58063.2022.10024082.
- [192] D. Lakmal, S. Ranathunga, S. Peramuna, and I. Herath, “Word Embedding Evaluation for Sinhala”.
- [193] A. F. Hidayatullah, A. Qazi, D. T. C. Lai, and R. A. Apong, “A Systematic Review on Language Identification of Code-Mixed Text: Techniques, Data Availability, Challenges, and Framework Development,” *IEEE Access*, vol. 10, pp. 122812–122831, 2022, doi: 10.1109/ACCESS.2022.3223703.
- [194] H. Rathnayake, J. Sumanapala, R. Rukshani, and S. Ranathunga, “Adapter-based fine-tuning of pre-trained multilingual language models for code-mixed and code-switched text classification,” *Knowl Inf Syst*, vol. 64, no. 7, pp. 1937–1966, Jul. 2022, doi: 10.1007/s10115-022-01698-1.
- [195] A. Go, R. Bhayani, and L. Huang, “Twitter Sentiment Classification using Distant Supervision,” in *CS224N Project Report*, Stanford, 2009, p. 12.
- [196] S. M. Mohammad and P. D. Turney, “CROWDSOURCING A WORD-EMOTION ASSOCIATION LEXICON,” *Computational Intelligence*, vol. 29, no. 3, pp. 436–465, Aug. 2013, doi: 10.1111/j.1467-8640.2012.00460.x.
- [197] S. Perera, S. Ahangama, I. Perera, and S. Hathnapitiya, “Predicting Twitter Hate User Behavior Using Big Five Personality Traits and Ensemble Machine Learning,” in *Social Computing and Social Media*, Springer, Cham, 2023, pp. 116–130. doi: 10.1007/978-3-031-35915-6_10.
- [198] S. Perera and K. Karunanayaka, “Sentiment Analysis of Social Media Data using Fuzzy-Rough Set Classifier for the Prediction of the Presidential Election,” presented at the 2022 2nd International Conference on Advanced Research in Computing (ICARC), Belihuloya, Sri Lanka, 2022, pp. 188–193. doi: 10.1109/ICARC54489.2022.9754173.

- [199]S. Perera, V. A, I. Perera, and S. Ahangama, "Identification of the severity level of a hate text by YouTubers," in *2025 5th International Conference on Advanced Research in Computing (ICARC)*, Belihuloya, Sri Lanka: IEEE, Feb. 2025, pp. 1–6. doi: 10.1109/ICARC64760.2025.10963083.
- [200]K. K. Sampath and M. Supriya, "Transformer Based Sentiment Analysis on Code Mixed Data," *Procedia Computer Science*, vol. 233, pp. 682–691, Jan. 2024, doi: 10.1016/j.procs.2024.03.257.
- [201]I. Jamaleddyn, R. El ayachi, and M. Biniz, "An improved approach to Arabic news classification based on hyperparameter tuning of machine learning algorithms," *Journal of Engineering Research*, vol. 11, no. 2, p. 100061, Jun. 2023, doi: 10.1016/j.jer.2023.100061.
- [202]I. M. Rabbimov and S. S. Kobilov, "Multi-Class Text Classification of Uzbek News Articles using Machine Learning," *J. Phys.: Conf. Ser.*, vol. 1546, no. 1, p. 012097, May 2020, doi: 10.1088/1742-6596/1546/1/012097.
- [203]E. Elgeldawi, A. Sayed, A. R. Galal, and A. M. Zaki, "Hyperparameter Tuning for Machine Learning Algorithms Used for Arabic Sentiment Analysis," *Informatics*, vol. 8, no. 4, p. 79, Nov. 2021, doi: 10.3390/informatics8040079.
- [204]G. Rabby and P. Berka, "Multi-class classification of COVID-19 documents using machine learning algorithms," *J Intell Inf Syst*, vol. 60, no. 2, pp. 571–591, Apr. 2023, doi: 10.1007/s10844-022-00768-8.
- [205]S. Perera, I. Perera, and S. Ahangama, "Influence Ranking of Hate Users in Content Propagation on Twitter," in *2025 5th International Conference on Advanced Research in Computing (ICARC)*, Belihuloya, Sri Lanka: IEEE, Feb. 2025, pp. 1–6. doi: 10.1109/ICARC64760.2025.10962830.
- [206]S. Perera, I. Perera, and S. Ahangama, "Identifying hate content with Facebook posts in Sinhala language using emoticons and reactions-based text analysis," presented at the Sri Lanka Association for the Advancement of Science Proceedings of the 77th annual sessions, 2021.
- [207]S. Perera, I. Perera, and S. Ahangama, "The effects of Social Media User Behavioural Factors on Hate Speech Detection," in *2nd International Conference on Advanced Research in Computing (ICARC)*, Belihuloya, Sri Lanka, 2022, p. 131136. doi: 10.1109/ICARC54489.2022.9753942.
- [208]S. Perera, I. Perera, and S. Ahangama, "Exploring Twitter Messages during the COVID-19 Pandemic in Sri Lanka: Topic Modelling and Emotion Analysis," presented at the 2022 2nd International Conference on Advanced Research in Computing (ICARC), Belihuloya, Sri Lanka, 2022, p. 14813. doi: 10.1109/ICARC54489.2022.9753866.
- [209]H. M. M. Caldera, N. Meedin, S. Perera, and I. Perera, "Long-Term Trend Analysis for Social Media Content Published During COVID-19 Pandemic," in *2022 2nd International Conference on Advanced Research in Computing (ICARC)*, Belihuloya, Sri Lanka: IEEE, Feb. 2022, pp. 108–113. doi: 10.1109/ICARC54489.2022.9753776.
- [210]N. Meedin, M. Caldera, S. Perera, and I. Perera, "A Novel Annotation Scheme to Generate Hate Speech Corpus through Crowdsourcing and Active Learning," *IJACSA*, vol. 13, no. 11, 2022, doi: 10.14569/IJACSA.2022.0131146.
- [211]S. Perera, I. Perera, and A. Supunmali, "Rank Hate Speech Propagators on Social Media Platforms," *IEEE Computer Society Sri Lanka Chapter - Newsletter*, vol. 4, no. 3, p. 23, Mar. 2025.

- [212]S. Perera, I. Perera, and S. Ahangama, “Influence Rank of Hate Users in Twitter: An Analysis during Sri Lanka’s Political and Economic Crisis,” presented at the International Conference on Advanced Research in Computing 2023, Sabaragamuwa University of Sri Lanka, Belihuloya, Sri Lanka., Feb. 2023.