Ronald E. Robertson

✉ rer@acm.org | ⌂ Website | ⌂ GitHub | ⌂ Google Scholar | ⌂ StackOverflow | ⌂ LinkedIn

Research Focus

I design data collection strategies to better understand the intersection of user choice, algorithmic curation, and choice architecture in online platforms. Drawing on my background in the psychological, computer, and network sciences, my goal is to foster a deeper and more widespread understanding of how humans and algorithms interact in digital spaces.

Education

Degree	University	Time	Details
Network Science PhD	Northeastern University	2016-2021	Advised by Christo Wilson (Computer Science) & David Lazer (Political Science); Dissertation: An Interdisciplinary Examination of Partisanship in Web Search.
Psychology BA	University of California San Diego	2010-2012	Graduated cum laude, Sociology minor.

Experience

Institution	Position	Time	Contributions
Stanford Internet Observatory	Research Scientist	2023-current	Leading projects on trust and safety in web search, the impact of large language models with chat interfaces, and the development of new methods for targeted content discovery.
	Postdoctoral Fellow	2021-2023	Published research articles and commentary on user-algorithm interactions in peer-reviewed outlets including *Nature*, *Science Advances*, and *Perspectives on Psychological Science*; Guest-edited a special issue of the *Journal of Online Trust and Safety*.
Microsoft Research NYC	Research Intern	2019	Worked with the Fairness, Accountability, Transparency, and Ethics in AI (FATE) team to assess the quality and impact of email reply suggestions and published our findings in the *Proceedings of the 2021 ACM Conference on Human Factors in Computing Systems* (*CHI*).
American Institute for Behavioral Research and Technology	Associate Director	2015-2016	Designed experiments, surveys, and data analyses; directed and trained research teams; managed pursuit of funding; published research in journals including the *Proceedings of the National Academy of Sciences* (*PNAS*) and *Behavior Analysis: Research and Practice*.
	Assistant Director	2012-2015	Established 501(c)(3) non-profit status; recruited, trained, and supervised research assistants; presented at peer-reviewed conferences; received coverage on our work from sources including: The Washington Post, PBS, Al Jazeera, and US News & World Report.

Publications

Journal Articles

Robertson, R. E., Green, J., Ruck, D. J., Ognyanova, K, Wilson, C., & Lazer, D. (2023). Users choose to engage with more partisan news than they are exposed to on Google Search. *Nature*. DOI:10.1038/s41586-023-06078-5

Robertson, R. E., Dunphy, A., Grossman, S., DiResta, R., & Thiel, D. (2023). Identifying search directives on social media. *Journal of Online Trust and Safety*, *2*(1). DOI:10.54501/jots.v2i1.133

Chen, A. Y., Nyhan, B., Reifler, J., **Robertson, R. E.**, & Wilson, C. (2023). Subscriptions and external links help drive resentful users to alternative and extremist YouTube channels. *Science Advances*. DOI: 10.1126/sciadv.add8080

Mejova, Y., Gracyk, T., & **Robertson, R. E.** (2022). Googling for abortion: Search engine mediation of abortion accessibility in the United States. *Journal of Quantitative Description: Digital Media, 2*. DOI:10.51685/jqd.2022.007

Ognyanova, K., Lazer, D., **Robertson, R. E.**, & Wilson, C. (2020). Misinformation in action: Fake news exposure is linked to lower trust in media, higher trust in government when your side is in power. *Harvard Kennedy School Misinformation Review*. DOI: 10.37016/mr-2020-024

Robertson, R. E., Tran, F. W., Lewark, L. N., & Epstein, R. (2018). Estimates of non-heterosexual prevalence: The roles of anonymity and privacy in survey methodology. *Archives of Sexual Behavior*, *47* (4), 1069-1084. DOI: 10.1007/s10508-017-1044-z

Epstein, R., Ho, M., Hyun, S., Le, C., **Robertson, R. E.**, & Stout, D. (2017). A DSM-5-based online mental health referral inventory: A large-scale validation study. *Journal of Technology in Human Services, 35* (3), 231-246. DOI: 10.1080/15228835.2017.1356800

Epstein, R., Mejia, J., & **Robertson, R. E.** (2017). The frequency profile: An informative method for graphing the behavior of individuals post-hoc or in real time. *Behavior Analysis: Research and Practice, 17* (1), 55-73. DOI: 10.1037/bar0000052

Epstein, R., **Robertson, R. E.**, Smith, R., Vasconcellos, T., & Lao, M. (2016). Which relationship skills count most? A large-scale follow-up study. *Journal of Couple and Relationship Therapy, 15* (4), 341-356. DOI: 10.1080/15332691.2016.1141136

Epstein, R. & **Robertson, R. E.** (2015). The search engine manipulation effect and its possible impact on the outcomes of elections. *Proceedings of the National Academy of Sciences, 112* (33), E4512-E4521. DOI: 10.1073/pnas.1419828112

Epstein, R., & **Robertson, R. E.** (2014). How to measure sexual orientation range, and why it's worth measuring. *Journal of Bisexuality, 14*, 392-404. DOI: 10.1080/15299716.2014.933378

Conference Proceedings

Gleason, J., Hu, D., **Robertson, R. E.**, & Wilson, C. (2023). Google the gatekeeper: How search components affect clicks and attention. In *Proceedings of the International AAAI Conference on Weblogs and Social Media* (ICWSM 2023). DOI: 10.1609/icwsm.v17i1.22142 [Best Paper Award]

Chwe, H., Williams, A., & **Robertson, R. E.** (2023) "Hey Beautiful": Race and gender on Tinder. *Proceedings of the 56th Hawaii International Conference on System Sciences* (HICCS 2023). PDF

Robertson, R. E., Olteanu, A., Diaz, F., Shokoui, M., & Bailey, P. (2021). "I can't reply with that": Characterizing problematic email reply suggestions. *Proceedings of the 2021 ACM Conference on Human Factors in Computing Systems* (CHI 2021). DOI:10.1145/3411764.3445557

Robertson, R. E., Jiang, S., Lazer, D., & Wilson, C. (2019). Auditing autocomplete: Suggestion networks and recursive algorithm interrogation. In *Proceedings of the 11th ACM Conference on Web Science* (WebSci 2019). DOI: 10.1145/3292522.3326047

Jiang, S., **Robertson, R. E.**, & Wilson, C. (2019). Bias misperceived: The role of partisanship and misinformation in YouTube comment moderation. In *Proceedings of the International AAAI Conference on Weblogs and Social Media* (ICWSM 2019). DOI: 10.1609/icwsm.v13i01.3229 [Outstanding Analysis Award]

Hu, D., Jiang, S., **Robertson, R. E.**, & Wilson, C. (2019). Auditing the partisanship of Google Search snippets. In *Proceedings of the 2019 Web Conference*. (pp. 693-704). DOI: 10.1145/3308558.3313654

Sapieżynski, P., Zeng, W., **Robertson, R. E.**, Mislove, A., & Wilson, C. (2019). Quantifying the impact of user attention on fair group representation in ranked lists. In *Companion Proceedings of the 2019 Web Conference*. DOI: 10.1145/3308560.3317595

Robertson, R. E., Jiang, S., Joseph, K., Friedland, L., Lazer, D., & Wilson, C. (2018). Auditing partisan audience bias within Google Search. In *Proceedings of the ACM: Human-Computer Interaction, 1*(2), Article 148. DOI: 10.1145/3274417 [Best Paper: Honorable Mention]

Robertson, R. E., Lazer, D., & Wilson, C. (2018). Auditing the personalization and composition of politically-related search engine results pages. In *Proceedings of the 2018 Web Conference* (pp. 955-965). DOI: 10.1145/3178876.3186143

Epstein, R., **Robertson, R. E.**, Lazer, D., & Wilson, C. (2017). Suppressing the search engine manipulation effect (SEME). In *Proceedings of the ACM: Human-Computer Interaction, 1*(2), Article 42. DOI: 10.1145/3134677

Commentary

Lewandowsky, S., **Robertson, R. E.**, & DiResta, R. (2023). Challenges in understanding human-algorithm entanglement during online information consumption. *Perspectives on Psychological Science*. DOI: 10.1177/17456916231180809

Robertson, R. E. (2022). Uncommon yet consequential online harms. *Journal of Online Trust and Safety, 1*(3). DOI:10.54501/jots.v1i3.87

Pasquetto, I., Swire-Thompson, B., Amazeen, M.A., Benevenuto, F., Brashier, N.M., Bond, R.M., Bozarth, L.C., Budak, C., Ecker, U.K.H., Fazio, L.K., Ferrara, E., Flanagin, A.J., Flammini, A., Freelon, D., Grinberg, N., Hertwig, R., Jamieson, K.H., Joseph, K., Jones, J.J., Garrett, K., Kreiss, D., McGregor, S., McNealy, J., Margolin, D., Marwick, A., Menczer, F., Metzger, M.J., Nah, S., Lewandowsky, S., Lorenz-Spreen, P., Ortellado, P., Pennycook, G., Porter, E., Rand, D.G., **Robertson, R. E.**, Tripodi, F., Vosoughi, S., Vargo, C., Varol, O., Weeks, B.E., Wihbey, J., Wood, T.J., & Yang, K.C. (2020). Tackling misinformation: What researchers could do with social media data. *Harvard Kennedy School Misinformation Review*. DOI:10.37016/mr-2020-49

Books

Metaxa, D., Park, J. S., **Robertson, R. E.**, Karahalios, K., Wilson, C., Hancock, J., & Sandvig, C. (2021). Auditing algorithms: Understanding algorithmic systems from the outside in. *Foundations and Trends in Human-Computer Interaction, 14*(4), 272-344. DOI: 10.1561/1100000083

Reports

Cryst, E., Schechter, N., **Robertson, R. E.**, & Thiel, D. (2021). Maduro's menagerie: Twitter client usage in a Venezuelan Twitter operation. Stanford Internet Observatory. Report PDF

Chen, A. Y., Nyhan, B., Reifler, J., **Robertson, R. E.**, and Wilson, C. (2021). Exposure to alternative & extremist content on YouTube. Anti-Defamation League. Report PDF

Lewandowsky, S., Smillie, L., Garcia, D., Hertwig, R., Weatherall, J., Egidy, S., **Robertson, R. E.**, O'Connor, C., Kozyreva, A., Lorenz-Spreen, P., Blaschke, Y., & Leiser, M. (2020) Technology and democracy: Understanding the influence of online technologies on political behaviour and decision-making. Joint Research Centre (European Commission). DOI:10.2760/709177

Popular Media

Robertson, R. E., Jiang, S., Joseph, K., Friedland, L., Lazer, D., & Wilson (2018, November 6). Is it the Algorithms or Us?. *Medium*

Robertson, R. E. (2018, June 4). When will Google defend democracy?. *The Conversation*

Robertson, R. E. (2018, January 15). The 21st century Skinner box. *Behavioral Scientist*

Work in Progress

Gleason, J., Koeninger, A., Hu, D., Teurn, J., Bart, Y., Knight, S., **Robertson, R. E.**, & Wilson, C. (forthcoming). Search engine revenue from navigational and brand advertising. *Proceedings of the International AAAI Conference on Weblogs and Social Media* (ICWSM 2024).

Hu, D., Gleason, J., Abu Bakar Aziz, M., Koeninger, A., Guggenberger, N., **Robertson, R. E.**, & Wilson, C. (forthcoming). Market or markets? Investigating Google Search's market shares under vertical segmentation. *Proceedings of the International AAAI Conference on Weblogs and Social Media* (ICWSM 2024).

Hu, D., **Robertson, R. E.**, Hannak, A., & Wilson, C. (under review). Exposure to YouTube videos on- and off-platform.

Robertson, R. E., Williams, E. M., Carley, K. M., Grossman, S., Thiel, D., & DiResta, R. (under review). Using search directives to identify data voids.

Grant Writing

Role	Award	Institutions	Date
PI	NULab Seedling Grant: The Impact of Race and Gender in Online Dating (Link)	Northeastern University	Mar 2020 - Mar 2021
Contributor	Volkswagen Foundation. Artificial Intelligence and the Society of the Future - Reclaiming individual autonomy and democratic discourse online: How to rebalance human and algorithmic decision making (Link)	Max Planck Institute for Human Dev., Northeastern University, University of Bristol	Nov 2020 - Nov 2024
Contributor	NSF CHS: Small: Auditing Critical Dependencies Between Online Media Platforms (ID:1910064)	Northeastern University	Aug 2019 - Jul 2023

Teaching

Role	Course	University	Date
Lead Instructor	Data Science - Social Science Practicum	Northeastern University	Spring 2021
Guest Lecturer	Algorithms that Affect Our Lives - Ranking and Moderating Online Political Information	Northeastern University	Spring 2020 & Fall 2020
Guest Lecturer	Special Topics in Computer Science - Algorithm Audits	Northeastern University	Winter 2022

Open Source Code and Data

Repository	Description	Languages	Stars	Forks	Updated
WebSearcher	Tools for geolocating, collecting, and parsing web search results.	Python	28	12	Dec 2023
domains	Repository of data on web domains. Compiles partisanship scores (e.g. Robertson et al. 2018) and news-related classifications from prior work.	Python	14	8	May 2023
webusage	Browser extension and server code for collecting exposure and engagement data. Used in Robertson et al. (2023) and Chen et al. (2023).	Javascript, Python, SQL	2	0	May 2023
exposure-engagement	Replication code and data for Robertson et al. (2023).	Python	1	0	May 2023
email-replies	Replication data for Robertson et al. (2021).	-	2	0	Jan 2021
suggests	Tools for auditing autocomplete suggestions on Google and Bing. Used in Robertson et al. (2019).	Python	21	7	Apr 2020
IPtoCountry	Tools for converting IP addresses to country names or full location details with geoplotting visualizations. [IP2Location 2016 Programming Contest Winner; link]	R	6	4	Aug 2019
bias-alerts	Replication code and data for Epstein et al. (2017).	R	2	0	Feb 2018
nh-estimates	Replication code and data for Robertson et al. (2018).	R	0	0	Sep 2017
dtables	Tools for generating descriptive frequency tables. Archived in 2020; 16K downloads on CRAN between May 2016 to Jan 2020.	R	9	2	Mar 2017

Academic Service

Peer Review

Journals	Conferences
AI Communications	Computer-Human Interaction (CHI)
EPJ Data Science	Computer Supported Cooperative Work (CSCW)
Information, Communication and Society	European Conference on Information Systems (ECIS)
Journal of Online Trust and Safety	Fairness, Accountability, and Transparency (FAccT)
Nature	International Conference on Computational Social Science (IC2S2)
Nature Communications	International Conference on Web and Social Media (ICWSM)
Nature Machine Intelligence	International Conference on Web Search and Data Mining (WSDM)
Psychological Science	Special Interest Group on Information Retrieval (SIGIR)
The Information Society	The Web Conference (WWW)

Presentations

Invited Talks

Robertson, R. E.; (2023, June). The impact of online systems. Invited talk for the University of Pennsylvania Chief Learning Officer (Ed.D) program. Stanford, CA.

Robertson, R. E. (2023, June). Measuring echo chambers, filter bubbles, and rabbit holes: Towards accurate assessments of users' interactions with online platforms. Invited talk with researchers at Meta. Virtual.

Robertson, R. E. (2022, November). Engagement outweighs exposure to partisan and unreliable news within Google Search. Invited paper presentation at the Stanford Cyber Policy Center Fall Seminar Series. Stanford, CA.

Robertson, R. E. (2021, March). Northeastern WebUsage Browser Extension. Invited talk at Mozilla's Internet Scale Social Science Workshop. Virtual.

Robertson, R. E. (2019, June). Invited speaker and panel member at the workshop on Complex Systems Perspectives on Algorithmic Bias at the International Conference on Web and Social Media Web (ICWSM 2019). Munich, Germany.

Robertson, R. E. (2019, May). Auditing autocomplete: Suggestion networks and recursive algorithm interrogation. Invited talk at the MIT Media Lab. Boston, MA.

Robertson, R. E. (2019, April). Attention biases and agency in information processing. Invited talk for the Workshop on AI-Assisted Information Architectures at the Max-Planck Institute for Human Development. Berlin, Germany.

Peer Reviewed Conferences (Selected)

Robertson, R. E., Dunphy, A., Grossman, S., DiResta, R., & Thiel, D. (2023, August). Search directives in political communication. Paper presented at the 6th annual Politics and Computational Social Science (PaCSS) pre-conference. Los Angeles, CA.

Robertson, R. E., Olteanu, A., Diaz, F., Shokoui, M., & Bailey, P. (2021, May). "I can't reply with that": Characterizing problematic email reply suggestions. Paper presented at the annual meeting of the ACM Conference on Human Factors in Computing Systems (CHI 2021). Virtual.

Robertson, R. E., Wilson, C., & Lazer, D. (2020, September). Online information seeking during the 2018 U.S. congressional elections. Paper presented at the 116th annual meeting of the American Political Science Association (APSA 2020). Virtual.

Robertson, R. E., Wilson, C., & Lazer, D. (2019, July). Fake news and information seeking during the 2018 U.S. Congressional Elections. Paper presented at the 5th International Conference on Computational Social Science (IC2S2). Amesterdam, Netherlands.

Robertson, R. E., Lazer, D., & Wilson, C. (2018, April). Auditing the Personalization and Composition of Politically-Related Search Engine Results Pages. Paper presented at the 2018 World Wide Web Conference (WWW 2018). Lyon, France.

Robertson, R. E., Lazer, D., & Wilson, C. (2018, March). Modeling suggestion networks for algorithm auditing. Paper presented at CompleNet 2018. Boston, MA.

Epstein, R., & **Robertson, R. E.** (2017, March) The Search Engine Manipulation Effect (SEME): Understanding its power to change opinions and votes. Paper presented at the 2nd biennial meeting of the International Convention of Psychological Science. Vienna, Austria.

Epstein, R., & **Robertson, R. E.** (2015, April). The Search Engine Manipulation Effect (SEME): Large-scale replications in two countries. Paper presented at the 95th annual meeting of the Western Psychological Association. Las Vegas, NV.

Epstein, R., & **Robertson, R. E.** (2014, April). Helping people preserve their privacy online: The surprising power of a click requirement. Paper presented at the 94th annual meeting of the Western Psychological Association. Portland, OR.

Robertson, R. E. & Epstein, R. (2014, April). Are we underestimating non-heterosexual prevalence? The critical role of survey methodology. Paper presented at the 94th annual meeting of the Western Psychological Association. Portland, OR.

Epstein, R., & **Robertson, R. E.** (2013, May). Democracy at risk: Search rankings can shift voter preferences substantially. Poster presented at the 25th annual meeting of the Association for Psychological Science. Washington, D.C.