Matthew R. DeVerna

mdeverna@iu.edu
matthewdeverna.com
Luddy Center for Artificial Intelligence
1015 E 11th St, Bloomington, IN 47408

Education

2020–25	**Ph.D.** (Ongoing), Informatics, Indiana University Bloomington Focus: Complex Networks & Systems
2018-20	**MA**, Psychology, New York University
2008-12	**BSc** Marketing, Saint Joseph's University

Research Experience

Sep. 2025–	Postdoctoral Researcher (Incoming), Social Media Lab, Stanford University (with Dr. Jeff Hancock)
2020–	Research Assistant, Observatory on Social Media, Indiana University Bloomington (Advisor: Dr. Filippo Menczer)
2020–	Research Assistant, Networks and Agents Networks, Indiana University Bloomington (Advisor: Dr. Filippo Menczer)
2020 sum.	Research Assistant, Princeton University, (with Dr. Andrew Guess)
2018–20	Research Assistant, Center for Social Media and Politics, New York University (Advisor: Dr. Joshua Tucker)
2018–20	Research Assistant, Social Justice Lab, New York University (Advisor: Dr. John Jost)

Awards & Honors

2025	Plurality Institute: LLMs & Public Discourse ($12,500; Role: Co-PI)
2020–2025	Knight Research Fellow at the Observatory on Social Media
2024	OpenAI Research Access Program Credits ($7,000; Role: PI)
2024	Future Leaders Summit Invitee (Theme: Responsible Data Science and AI)
2024	Mozilla Foundation's AI Intersections Database Contributor
2023	Institute for Humane Studies Fellowship ($5,000)
2023	Civic Health Project: LLM Applications for Civic Health ($5,000; Role: Co-PI)
2023	Cognizant Trust and Safety Scholarship ($10,000)

2023	Informatics Luddy Outstanding Service Award ($500)
2023	Cited in the 2023 Economic Report of the President [J5]
2022	MISDOOM: Best Student Extended Abstract [J2]
2022	Aspen Institute Information Disorder Competition: Semi-finalist ($5,000)
2022	Twitter Student Ambassador (pre-Musk)
2020	Invited Contestant, Annual Threesis Academic Challenge, New York University

Publications

Google Scholar

† → Equal contribution

Journal Articles

J1. **DeVerna, Matthew R.**, Pierri, F., Ahn, Y.-Y., Fortunato, S., Flammini, A. & Menczer, F. Modeling the amplification of epidemic spread by misinformed populations. *npj Complexity.* In Press. https://arxiv.org/abs/2402.11351v1 (2025).

J2. **DeVerna, Matthew R.**, Aiyappa, R., Pacheco, D., Bryden, J. & Menczer, F. Identifying and characterizing superspreaders of low-credibility content on Twitter. *PLOS ONE.* https://doi.org/10.1371/journal.pone.0302201 (2024).

J3. **DeVerna, Matthew R.**, Yan, H. Y., Yang, K.-C. & Menczer, F. Fact-checking information from large language models can decrease headline discernment. *Proceedings of the National Academy of Sciences* **121.** https://www.pnas.org/doi/abs/10.1073/pnas.2322823121 (2024).

J4. Pierri, F., **DeVerna, Matthew R.**, Yang, K.-C., Axelrod, D., Bryden, J. & Menczer, F. One Year of COVID-19 Vaccine Misinformation on Twitter: Longitudinal Study. *J Med Internet Res* **25.** https://doi.org/10.2196/42227 (2023).

J5. Pierri, F., Perry, B. L., **DeVerna, Matthew R.**, Yang, K.-C., Flammini, A., Menczer, F. & Bryden, J. Online misinformation is linked to early COVID-19 vaccination hesitancy and refusal. *Scientific Reports* **12.** https://doi.org/10.1038/s41598-022-10070-w (2022).
– Included in *Scientific Reports* Top 100 downloaded papers (2022)
– Cited in the Economic Report of the President (2023).

J6. **DeVerna, Matthew R.**, Guess, A. M., Berinsky, A. J., Tucker, J. A. & Jost, J. T. Rumors in Retweet: Ideological asymmetry in the failure to correct misinformation. *Personality and Social Psychology Bulletin.* https://doi.org/10.1177/01461672221114222 (2021).

Peer-reviewed Conference Proceedings

C1. Samieyan Sahneh, E., Nogara, G., **DeVerna, Matthew R.**, Liu, N., Luceri, L., Menczer, F., Pierri, F. & Giordano, S. *The Dawn of Decentralized Social Media: An Exploration of Bluesky's Public Opening* in *Social Networks Analysis and Mining* (eds Aiello, L. M., Chakraborty, T. & Gaito, S.) (Springer Nature Switzerland, Cham, 2025), 422–437. https://doi.org/10.1007/978-3-031-78541-2_26.

C2. Aiyappa[†], R., **DeVerna[†], Matthew R.**, Pote[†], M., Truong[†], B. T., Zhao[†], W., Axelrod, D., Pessianzadeh, A., Kachwala, Z., Kim, M., Seckin, O. C., Kim, M., Gandhi, S., Manikonda, A., Pierri, F., Menczer, F. & Yang, K.-C. *A Multi-Platform Collection of Social Media Posts about the 2022 U.S. Midterm Elections* in *Proceedings of the International Conference on Web and Social Media* (2023). https://ojs.aaai.org/index.php/ICWSM/article/view/22205.

C3. **DeVerna, Matthew R.**, Pierri, F., Truong, B. T., Bollenbacher, J., Axelrod, D., Loynes, N., Torres-Lugo, C., Yang, K.-C., Menczer, F. & Bryden, J. *CoVaxxy: A Collection of English-Language Twitter Posts About COVID-19 Vaccines* in *Proceedings of the International Conference on Web and Social Media* **15** (2021), 1–10. https://doi.org/10.1609/icwsm.v15i1.18122.

Manuscripts under review

R1. Greene, K., **DeVerna, Matthew R.**, Tucker, J. A. & Buntain, C. *Hot Tweets and Cold Posts: Variation in US Congresspeople's Ideological Presentation on Twitter and Facebook Over Time.* Revise and Resubmit @ the International Conference on Web and Social Media. 2025.

R2. **DeVerna, Matthew R.**, Pierri, F., Aiyappa, R., Pachecho, D., Bryden, J. & Menczer, F. *Cascade reconstruction assumptions can distort our understanding of social network dynamics.* Under Review @ Nature Computational Science. 2024. https://doi.org/10.48550/arXiv.2410.21554.

Manuscripts in preparation

W1. **DeVerna, Matthew R.**, Ghosh, S. & Menczer, F. *Exploring how CivitAI's community wields the power of artificial intelligence.*

W2. **DeVerna, Matthew R.**, Yang, K.-C., Yan, H. Y. & Menczer, F. *Assessing the accuracy and bias of political fact-checking by large language models augmented with reliable information.*

Tools & Software

 mr-devs

Observatory on Social Media (OSoMe)

Facebook News Bridge: AI browser extension utilizing a retrieval-augmented large language model (LLM) to identify low-credibility posts on Facebook and generate thoughtful responses aimed at bridging political divides.

Top FIBers: tracked and reported on the top superspreaders of low-credibility information on Twitter and Facebook each month.

Midterm 2022 dashboard: dashboard for exploring US 2022 midterm election discussions on multiple platforms.

osometweet: Python package to work with Twitter's V2 API (PyPi | GitHub). Presented on Twitter's Twitch channel on September 3rd, 2021 (pre-Musk | demo).

CoVaxxy: dashboard for visualizing the relationship between COVID-19 vaccine adoption and online (mis)information.

Other

Deadline Hub: Website that tracks various academic deadlines.

Fact-checking Widget: Streamlit app that allows users to explore how different OpenAI models fact check news articles. Illustrates the prompt used in [J3].

Pseudo-profound Bullshit Generator: Streamlit App for generating psuedo-profound bullshit with the help of GPT-3.5.

AI Persuasion Companion for CMV: Streamlit App for retrieving and responding to posts from Reddit's r/changemyview subreddit with GPT-4.

py_misinfo_exposure: Calculate a user's misinformation-exposure score on Twitter (PyPi | GitHub). Based on Mosleh & Rand. *Nature Communications* (2022).

Clean Academic CV Template: An Overleaf/LaTeX CV template I designed for ease of customization and maintenance.

Presentations

Invited Talks

I1. **DeVerna, Matthew R.**, Yang, K.-C., Yan, H. Y. & Menczer, F. *Fact-checking information generated by a large language model can decrease headline discernment.* 3rd Misinformation and Belief Science Preconference @ the Society for Personality and Social Psychology (Denver, CO, USA). Feb. 2025.

I2. **DeVerna, Matthew R.**, Aiyappa, R., Pacheco, D., Bryden, J. & Menczer, F. *Identifying and characterizing superspreaders of low-credibility content on Twitter.* Security, Trust, and Safety (SETS) Seminar @ Cornell Tech (New York City, NY, USA). Sept. 2024.

I3. **DeVerna, Matthew R.**, Yan, H. Y., Yang, K.-C. & Menczer, F. *Fact-checking information generated by a large language model can decrease headline discernment.* Future Leaders Summit at the University of Michigan (Ann Arbor, MI, USA). Apr. 2024.

I4. **DeVerna, Matthew R.**, Yang, K.-C., Yan, H. Y. & Menczer, F. *Fact-checking information generated by a large language model can decrease headline discernment.* Rising Stars Event @ the University of Iowa's Computer Science Department (Iowa City, IA, USA). Dec. 2024.

I5. **DeVerna, Matthew R.**, Yang, K.-C., Yan, H. Y. & Menczer, F. *Fact-checking information generated by a large language model can decrease headline discernment.* Social Action Lab @ the University of Pennsylvania (Virtual). Oct. 2024.

I6. **DeVerna, Matthew R.** *CoVaxxy: Linking COVID-19 vaccine adoption and online (mis)information.* American College Health Association's Vaccine Misinformation CoVAC Initiative (Virtual). June 2021.

Talks

T1. **DeVerna, Matthew R.**, Pierri, F., Aiyappa, R., Pachecho, D., Bryden, J. & Menczer, F. *Cascade reconstruction assumptions can distort our understanding of social networks.* CS2Italy (Trento, Italy; presented by Francesco Pierri). Jan. 2025.

T2. **DeVerna, Matthew R.**, Pierri, F., Ahn, Y.-Y., Fortunato, S., Flammini, A. & Menczer, F. *Modeling the amplification of epidemic spread by misinformed populations.* International Conference on Computational Social Science (Philadelphia, PA, USA). July 2024.

T3. **DeVerna, Matthew R.**, Pierri, F., Aiyappa, R., Pachecho, D., Bryden, J. & Menczer, F. *Cascade reconstruction assumptions can distort our understanding of social networks.* Italian Conference on Big Data and Data Science (Pisa, Italy; presented by Francesco Pierri). Sept. 2024.

T4. **DeVerna, Matthew R.**, Yan, H. Y., Yang, K.-C. & Menczer, F. *Fact-checking information generated by a large language model can decrease headline discernment.* Trust & Safety Research Conference (Stanford, CA, USA). Sept. 2024.

T5. **DeVerna, Matthew R.**, Pierri, F., Ahn, Y.-Y., Fortunato, S., Flammini, A. & Menczer, F. *Modeling the amplification of epidemic spread by misinformed populations.* EDMO Scientific Conference on Disinformation (Amsterdam, Netherlands; Presented by Francesco Pierri). Nov. 2023.

T6. **DeVerna, Matthew R.**, Pierri, F., Aiyappa, R., Pachecho, D., Bryden, J. & Menczer, F. *Social media cascade reconstruction to find misinformation amplifiers.* NetSci Conference (Vienna, Austria). July 2023.

T7. **DeVerna, Matthew R.**, Yan, H. Y., Yang, K.-C. & Menczer, F. *Fact-checking information generated by a large language model can decrease headline discernment.* Politics and Computational Social Science Conference (Los Angeles, CA, USA; Presented by Kaicheng Yang). Aug. 2023.

T8. **DeVerna, Matthew R.**, Aiyappa, R., Pacheco, D., Bryden, J. & Menczer, F. *Identifying and characterizing superspreaders of low-credibility content on Twitter.* Truth and Trust Online Conference (Virtual). Oct. 2022.

T9. **DeVerna, Matthew R.**, Aiyappa, R., Pacheco, D., Bryden, J. & Menczer, F. *Identifying and characterizing superspreaders of low-credibility content on Twitter.* Multidisciplinary International Symposium on Disinformation in Open Online Media (Virtual). Oct. 2022.
– Best Student Extended Abstract.

T10. **DeVerna, Matthew R.**, Aiyappa, R., Pacheco, D., Bryden, J. & Menczer, F. *Identifying and characterizing superspreaders of low-credibility content on Twitter.* Networks: Joint Sunbelt and NetSci Conference (Virtual). Oct. 2022.

Posters

P1. **DeVerna, Matthew R.**, Pierri, F., Aiyappa, R., Pachecho, D., Bryden, J. & Menczer, F. *Cascade reconstruction assumptions can distort our understanding of social networks.* International Conference on Computational Social Science (Philadelphia, PA, USA). July 2024.

P2. **DeVerna, Matthew R.**, Yan, H. Y., Yang, K.-C. & Menczer, F. *Fact-checking information generated by a large language model can decrease headline discernment.* International Conference on Computational Social Science (Philadelphia, PA, USA). July 2024.

P3. **DeVerna, Matthew R.**, Pierri, F., Aiyappa, R., Pachecho, D., Bryden, J. & Menczer, F. *Social media cascade reconstruction to find misinformation amplifiers.* International Conference on Computational Social Science (Copenhagen, Denmark). July 2023.

P4. **DeVerna, Matthew R.**, Yan, H. Y., Yang, K.-C. & Menczer, F. *Fact-checking information generated by a large language model can decrease headline discernment.* Conference on Digital Experimentation @ MIT (Boston, MA, USA). Apr. 2023.

Demonstrations & Tutorials

D1. **DeVerna, Matthew R.** *CoVaxxy: Linking COVID-19 vaccine adoption and online (mis)information.* Invited to the Learning Informatics Lab, University of Minnesota (Virtual). Mar. 2022.

D2. **DeVerna, Matthew R.** *MisAmplifier: Uncovering Hidden Amplifiers of Misinformation.* Former President of the Dominican Republic, Leonel Fernández, visited the Observatory on Social Media (Bloomington, IN, USA). Apr. 2022.

D3. **DeVerna, Matthew R.** *osometweet: A Python package for working with Twitter's V2 API.* Twitter's Official Twitch Channel (Virtual). Nov. 2022.

D4. **DeVerna, Matthew R.** *CoVaxxy: Linking COVID-19 vaccine adoption and online (mis)information.* Knight Research Network Tool Demonstration (Virtual). Oct. 2021.

D5. **DeVerna, Matthew R.** *CoVaxxy: Linking COVID-19 vaccine adoption and online (mis)information.* International Conference on Web and Social Media (Virtual). July 2021.

D6. **DeVerna, Matthew R.** *MisAmplifier: Uncovering Hidden Amplifiers of Misinformation.* Networks: Joint Sunbelt and Netsci Conference (Virtual). June 2021.

Selected Media Coverage

2025	Indiana Public Media, Are You Immune to AI in Your News Feed? [J3]
2024	ABC (Australian Broadcast Corporation), Misinformation posted to Twitter comes from 'superspreader' accounts, say researchers, amid warnings for future of content moderation on X. [J2]
2024	IFL Science, Just 10 "Superspreaders" Are Responsible For Over A Third Of Misinformation On Twitter. [J2]
2024	Just Security, How to Combat Emerging Global Social Media Manipulation in 2024. (Top FIBers dashboard) [J2]
2023	AP News, RFK Jr. spent years stoking fear and mistrust of vaccines. These people were hurt by his work. [J4]
2023	Indiana Newsdesk TV Segment. [J4]
2023	il Post, La disinformazione è un problema diverso da come lo immaginiamo. (Disinformation is a different problem than we imagine.) [J5]
2023	IMAGINE IU Magazine, Finding Fibbers. (Top FIBers dashboard) [J2]
2022	New York Times Magazine, The Anti-Vaccine Movement's New Frontier. (CoVaxxy) [C3]
2022	Slate, Elon Musk Says He Wants Free Speech on Twitter. But for Whom? [J5]
2022	Time, Routine Childhood Vaccination Rates Fell as Misinformation About the COVID-19 Shot Rose. [J5]
2022	Tech Policy Press, Researchers See Clear Link Between Twitter Misinformation and COVID-19 Vaccine Hesitancy and Refusal. [J5]
2021	Axios, Misinformation is just one part of a vaccine trust problem. (CoVaxxy) [C3]
2021	AP News, How a Kennedy built an anti-vaccine juggernaut amid COVID-19. (CoVaxxy) [C3]

Teaching

Indiana University Bloomington

2024   Assistant Instructor, Network Science, Graduate (Ph.D.)
2024   Guest Lecturer, Social Media Theory and Practice, Undergraduate
2022   Guest Lecturer, Social Media Manipulation 101, Undergraduate
2022   Guest ecturer, Computer and Information Ethics, Graduate (Ph.D.)

Academic Advising

2023   Ashley Ziegler, Indiana University Bloomington, Undergraduate Research
            Opportunity in Computing Program

Academic Service

Guest Editor

2023   EPJ Data Science: Special Issue on Computational Approaches for Cyber
            Social Threats

Journal Reviewer

2025   Scientific Reports
2024   PLOS One
2024   EPJ Data Science
2023   Human Communications Research
2023   PLOS One
2023   Journal of Medical and Internet Research
2022   Journal of Medical and Internet Research: Formative Research
2022   Media and Communication
2022   Online Social Networks and Media
2021   Journal of Medical and Internet Research: Infodemiology

Speaker Series Organizer

2024–25   OSoMe *Awesome Speakers*: Deen Freelon, Jeremy Blackburn, Josephine Luk-
            ito, Amy Zhang. (public recordings)

2023–24   OSoMe *Awesome Speakers*: Joshua Tucker, Gianluca Stringhini, Luca Luceri, Franziska Roesner, Brendan Nyhan, Ceren Budak, Renée DiResta, David Lazer, David Brontiatowski, David Rand, Sandra Gonzáles-Bailón, Andrew Guess, Kate Starbird, Sinan Aral. (public recordings)

Workshop Organizer

2024   Fifth International Workshop on Cyber Social Threats (CySoc) @ the International AAAI Conference on Web and Social Media
2023   Fourth International Workshop on Cyber Social Threats (CySoc) @ the ACM Web Conference
2022   Third International Workshop on Cyber Social Threats (CySoc) @ the International AAAI Conference on Web and Social Media

Conference Reviewer

2025   International AAAI Conference on Web and Social Media
2025   The ACM Web Conference
2024   International Conference on Computational Social Science
2024   The ACM Web Conference
2024   International AAAI Conference on Web and Social Media
2023   International AAAI Conference on Web and Social Media
2022   International AAAI Conference on Web and Social Media
2021   International AAAI Conference on Web and Social Media

Invited Speaker

2024   "Data is everything" panelist, Luddy Precollege Summer STEM Program, Indiana University Bloomington
2022   Misinformation in Science and Society (MISS), YouTube channel
2022   Superheroes of Science, Podcast

Academic Governance

2020   Graduate (Ph.D.) Student Representative, Informatics Department, Indiana University Bloomington

Professional Memberships

2024–   Coalition for Independent Technology Research
2024–   Prosocial Design Network

Other Experience

2018   Managing Media Strategist, Wavemaker, New York City, New York (Altice, North America)
2013–15   Senior Media Planner and Managing Media Strategist, MEC Global, New York City, New York (Chevron, Global)
2012–13   Associate Media Planner and Senior Media Planner, MEC Global, New York City, New York (Citibank, Global)

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