Morgan R. Frank

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Current Appointment

- Associate Professor (without tenure), Department of Design and Innovation, Weatherhead School of Management, Case Western Reserve University (2025–present)
- MIT Connection Science Fellow (2020-present)
- MIT Media Lab Research Affiliate
- Digital Fellow, Digital Economy Lab, Stanford Institute for Human-Centered Artificial Intelligence
- Advising Fellow, AI Economy Institute, Microsoft (2026-present)

Education

- Postdoctoral Associate, Sociotechnical Systems Research Center (SSRC) as part of Connection Science with affiliations at the MIT Institute for Data, Systems, and Society (IDSS), the MIT Human Dynamics group at the Media Laboratory, and the MIT Initiative on the Digital Economy (IDE). Postdoctoral advisor: Prof. Alex 'Sandy' Pentland (June 2019-2020)
- Received PhD from the Media Laboratory at the Massachusetts Institute of Technology (2014-2019). Dissertation Committee: Prof. Iyad Rahwan (MIT, Max Planck Institute), Prof. Alex 'Sandy' Pentland (MIT), & Prof. Erik Brynjolfsson (Stanford).
- Received Master's of Science in Applied Mathematics and a graduate certificate in Complex Systems from the University of Vermont (2012-2014)
- Received Bachelor of Science majoring in Mathematics and minoring in Computer Science, and Statistics from the University of Vermont (2008-2012)
- Received GED from Holderness School in Plymouth, NH (2004-2008)

Other Appointments:

- Assistant Professor, Department of Informatics and Networked Systems, University of Pittsburgh (2020–2025)
- Faculty, Intelligent Systems Program, University of Pittsburgh (2020–2025)
- Research Affiliate, Institute for Cyber Law, Policy, and Security, University of Pittsburgh (2020–2025)
- Non-Employee Researcher, Massachusetts General Hospital Center for Genomic Medicine (November 2019-June 2023)
- Scientist in Residence in the department of Mathematics and Statistics at the University of Vermont (June-August 2021)
- Visiting Scholar at Kellogg School of Management, Northwestern University (May 2018-2019)
- Technical consultant for Google ATAP (summer 2015)
- Data Science Intern at LinkedIn (summer 2014)

Teaching

- Designed and delivered (CMPINF 2105) Mathematical & Statistical Foundations for Data Science as part of the Pitt Masters in Data Science (MDS) program
- Designed and taught Data, Complexity, and Society: A survey of topics in Computational Social Science (INFSCI 3350) at the University of Pittsburgh

- Designed and taught Network Science and Analysis (INFSCI 2125) at the University of Pittsburgh
- Advising research of undergraduate research assistant through MIT's UROP (March 2020-present)
- Teaching Assistant for Intro to Complex Systems at the Department of Civil and Environmental Engineering at MIT (spring 2014)
- Taught Math 010: Pre-calculus Mathematics at UVM (summer 2013)

Grants & Awards

- Invited proposal to the Russell Sage Foundation's Future of Work Program **$200,000** [Pending]
- The Mascaro Center for Sustainable Innovation Research Seed Grant (2025) **$65,000**
- Fellow at Microsoft's AI Economy Institute (2025) **$80,000**.
- Alfred P. Sloan Foundation (2025), co-PI. *Labor Implications of AI at the Nexus of Business Processes, Tasks and Workers*. **$1.75m** (g-2025-25158)
- Walmart. 2024. Co-PI. **$250,000**
- PittCyber Accelerator Grant. PI. **$2,500**.
- University of Pittsburgh School of Computing and Information Small Grant to support the PittCSS Initiative. PI. **$7,000**
- "The Future of Energy Work: Re-skilling and Locating Extraction Workers into the Green Industry." Heinz Foundation. 2022. PI. **$194,614** (# E9694)
- "Cultural Representativeness in the Principles of AI." Pitt Momentum Fund. 2022. co-PI. **$60,000**
- "College Education and Skills for the Future of Work." Russell Sage Foundation. 2022. PI. **$35,000 + $25,000 in University cost-sharing** (# G-2109-33808)
- "Detailed unemployment and the resilience of urban workers." Pitt Momentum Fund. February 2021. PI. **$16,000**
- "Workshop: Innovation, Cities, and the Future of Work." National Science Foundation. June 7, 2017. Co-PI. **$24,750**

Workshops and Conferences Organized:

- Co-organizer of the Workshop on an Effective and Just Transition for Energy Workers (2025)
- Co-organizer of the Open Skill Genome Webinar (2024)
- Organizer of the CNEI22: Complex Networks in Economics and Innovation 2022 Netsci satellite conference
- Organizer of the CNEI21: Complex Networks in Economics and Innovation 2021 Netsci satellite conference
- Web Chair for IC2S2 2020
- Fall 2017 Media Lab Members' Week Workshop on Future of Work: AI & the Ecology of Labor (2017)
- Co-PI for the Innovation, Cities, and the Future of Work workshop hosted at MIT IDSS (2017)

Publications

In Preparation

- *International brain-drain and and the impact of women empowerment*. Alireza Javadian Sabet, Junghyun Lim, Morgan R. Frank.
- *How skills shape career during job disruptions*. Wendi Li, Morgan R. Frank.

- *Career trajectories and the economic resilience of US cities*. Wendi Li, Morgan R. Frank.
- *A career space from resumes: A flexible empirical framework for modeling education, careers, and AI*. Alireza Javadian Sabet, Moh Hosseinioun, Yong-Yoel Ahn, Hyejin Youn, Morgan R. Frank.

Under Submission

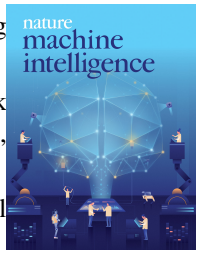
- *Making AI Exposure Meaningful: Understanding Potential, Not Prediction*. Morgan R. Frank, Daniel Rock, Matthew Beane, Benjamin Labaschin. Under evaluation at Science.
- *AI-exposed jobs deteriorated before ChatGPT*. Morgan R. Frank, Alireza Javadian Sabet, Lisa Simon, Sarah H. Bana, Renzhe Yu. (preprint).
- *Upward mobility in the green sector for frontline fossil fuel workers*. Qing Chang, Michael Aklin, Morgan R. Frank, Shanti Gamper-Rabindran. Under review at Nature.
- *Pricing Job Priorities in Coal Communities*. Junghyun Lim, Arezou Farzaneh, Shanti Gamper-Rabindran, Morgan R. Frank, Michael Aklin. Under review at Nature Communications.
- *Attitudes Towards AI Transparency in Taiwan and the USA*. Brian Porter, Morgan R. Frank, Yu-Ru Lin, Edouard Macher. Under review at Nature Communications.

Appeared

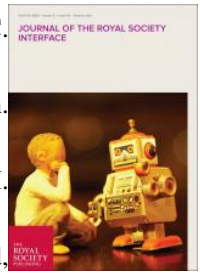
Note: journal images represent when publication was featured in the cover image for that issue.

1. Stakeholder Satisfaction Interdependencies in 10-K Reports. Ivy Luo, Morgan R. Frank, Sandro Claudio Lera. **Journal of Business Ethics** (2026).
2. AI exposure predicts unemployment risk. Morgan R. Frank, Yong-Yeol Ahn, Esteban Moro. **PNAS Nexus** (2025).
3. Behavior-based dependency networks improve predictability of economic resilience. Takahiro Yabe, Bernardo Garcia Bulle Bueno, Morgan R. Frank, Alex Pentland, Esteban Moro. **Nature Human Behaviour** (2024).
4. A national longitudinal dataset of skills taught in U.S. higher education curricula. Alireza Javadian Sabet, Sarah Bana, Renzhe Yu, Morgan R. Frank. **Nature Scientific Data** (2024).
5. Network constraints on worker mobility. Morgan R. Frank, Esteban Moro, Alex Rutherford, Alex 'Sandy' Pentland, Bledi Taska, Iyad Rahwan. **Nature Cities** (2024).
6. Understanding Human-machine Cooperation in Game-theoretical Driving Scenarios amid Mixed Traffic. Yutong Zhang, Shihong Ling, Edmond Awad, Morgan R. Frank, Na Du. **Proceedings of the CHI Conference on Human Factors in Computing Systems** (2024).
7. Allotaxonometry and rank-turbulence divergence: a universal instrument for comparing complex systems. Peter Sheridan Dodds, Joshua R. Minot, Michael V. Arnold, Thayer Alshaabi, Jane Lydia Adams, David Rushing Dewhurst, Tyler J. Gray, Morgan R. Frank, Andrew J. Reagan, Christopher M. Danforth. **EPJ Data Science** (2023).
8. Location is a major barrier for transferring US fossil fuel employment to green jobs. Junghyun Lim, Michaël Aklin, Morgan R. Frank. **Nature Communications** (2023).
9. Art and the science of generative AI. Ziv Epstein, Aaron Hertzmann, Memo Akten, Hany Farid, Jessica Fjeld, Morgan R. Frank, Matthew Groh, Laura Herman, Neil Leach, Robert Mahari, Alex "Sandy" Pentland, Olga Russakovsky, Hope Schroeder, Amy Smith. **Science** (2023).
10. Connecting Higher Education to Workplace Activities and Earnings. Hung Chau, Sarah H. Bana, Baptiste Bouvier, Morgan R. Frank. **PLOS One** (2023).
11. Automation impacts China's polarized job market. Haohui Caron Chen, Xun Li, Morgan R. Frank, Xiaozhen Qin, Weipan Xu, Manuel Cebrian, Iyad Rahwan. **Journal of Computational Social Science** (2022).

12. Developing China's Workforce Skill Taxonomy Reveals Extent of Labor Market Polarization. Weipan Xu, Xiaozhen Qin, Xun Li, Haohui Chen, Morgan R. Frank, Alex Rutherford, Andrew Reeson, Iyad Rahwan. **Humanities and Social Sciences Communications** (2021).
13. Housing Prices and the Skills Composition of Neighborhoods. Shahad Althobaiti, Saud Alghumayjan, Morgan R. Frank, Esteban Moro, Ahmad Alabdulkareem, Alex 'Sandy' Pentland. **Frontiers in Big Data** (2021).
14. Universal resilience patterns in labor markets. Esteban Moro*, Morgan R. Frank*, Alex 'Sandy' Pentland, Alex Rutherford, Manuel Cebrian, Iyad Rahwan. **Nature Communications** (2021).
15. Generalized word shift graphs: A method for visualizing and explaining pairwise comparisons between texts. Ryan J. Gallagher, Morgan R. Frank, Lewis Mitchell, Aaron J. Schwartz, Andrew J. Reagan, Christopher M. Danforth, Peter Sheridan Dodds. **EPJ Data Science** (2021).
16. The universal pathway to innovative urban economies. Inho Hong, Morgan R. Frank, Iyad Rahwan, Woo-Sung Jung, Hyejin Youn. **Science Advances** (2020).

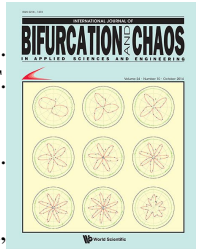


17. Towards Understanding the Impact of AI on Labor. Morgan R. Frank, David Autor, James E. Bessen, Erik Brynjolfsson, Manuel Cebrian, David J. Deming, Maryann Feldman, Matthew Groh, José Lobo, Esteban Moro, Dashun Wang, Hyejin Youn, Iyad Rahwan. **Proceedings of the National Academy of Science** (2019).
18. The evolution of citation graphs in artificial intelligence research. Morgan R. Frank, Dashun Wang, Manuel Cebrian, Iyad Rahwan. **Nature Machine Intelligence** (2019).
19. Unpacking the polarization of workplace skills. A. Alabdulkareem*, M. R. Frank*, L. Sun, B. AlShebli, C. Hidalgo, I. Rahwan. **Science Advances** (2018).
20. Small cities face greater impact from automation. M. R. Frank, L. Sun, M. Cebrian, H. J. Youn, I. Rahwan. **Journal of the Royal Society Interface** (2018).



21. Detecting reciprocity at global scale. M. R. Frank, N. Obradovich, L. Sun, W. L. Woon, B. L. LeVeck, I. Rahwan. **Science Advances** (2018).
22. Validating Bayesin truth serum in large-scale online human experiments. M. R. Frank, M. Cebrian, G. Packard, I. Rahwan. **PLOS ONE** (2017).
23. The Lexicocalorimeter: Gauging public health through caloric input and output on social media. S. E. Alajajian, J. R. Williams, A. J. Reagan, S. C. Alajajian, M. R. Frank, L. Mitchell, J. Lahne, C. M. Danforth, P. S. Dodds. **PLOS ONE** (2016).

24. Reply to Garcia et al.: Common mistakes in measuring frequency-dependent word characteristics. P. S. Dodds, E. M. Clark, S. Desu, M. R. Frank, A. J. Reagan, J. R. Williams, L. Mitchell, K. D. Harris, I. M. Kloumann, J. P. Bagrow, K. Megerdoomian, M.T. McMahon, B. F. Tivnan, C. M. Danforth. **Proceedings of the National Academy of Science** (2015).
25. Human language reveals a universal positivity bias. P. S. Dodds, E. M. Clark, S. Desu, M. R. Frank, A. J. Reagan, J. R. Williams, L. Mitchell, K. D. Harris, I. M. Kloumann, J. P. Bagrow, K. Megerdoomian, M. T. McMahon, B. F. Tivnan, C. M. Danforth. **Proceedings of the National Academy of Science** (2014).



26. Standing Swells Surveyed Showing Surprisingly Stable Solutions for the Lorenz '96 system. M. R. Frank, L. Mitchell, P. S. Dodds, C. M. Danforth. **International Journal of Bifurcations and Chaos** (2014).
27. An Evolutionary Algorithm Approach to Link Prediction in Dynamic Social Networks. C. A. Bliss, M. R. Frank, C. M. Danforth, P. S. Dodds. **Journal of Computational Science** (2013).
28. Happiness and the Patterns of Life: A Study of Geolocated Tweets. M. R. Frank, L. Mitchell, P. S. Dodds, C. M. Danforth. **Nature Scientific Reports** (2013).
29. The Geography of Happiness: Connecting Twitter sentiment and expression, demographics, and objective characteristics of place. L. Mitchell, K. D. Harris, M. R. Frank, P. S. Dodds, C. M. Danforth. **PLOS One** (2013).
30. Enumerating Costas Latin Squares. M. R. Frank, J. Dinitz. **Journal of Combinatorial Mathematics and Combinatorial Computation** (2012).

Book Chapters

1. Enhacing Labor markets' resilience in preparation for the Net-Zero Transition and New Technologies through complex systems. R. Maria del Rio Chanona, Morgan R. Frank, Penny Mealy, Esteban Moro, Ljubica Nedelkoska. **Santa Fe Institute edited volume** (0).
2. Chapter 17: College, Careers, and the Rise of AI in Degrees of Change: What AI Means for Education and the Next Generation (Microsoft AI Economy Institute Series). Morgan R. Frank. **Microsoft AI Economy Institute Series** (2026).

Preprints

1. Enhancing Labor markets' Resilience in Preparation for the Net-Zero Transition and New Technologies. R. Maria del Rio-Chanona, Morgan R. Frank, Penny Mealy, Esteban Moro, Ljubica Nedelkoska.
2. The Resume Paradox: Greater Language Differences, Smaller Pay Gaps. Joshua R. Minot, Marc Maier, Bradford Demarest, Nicholas Cheney, Christopher M. Danforth, Peter Sheridan Dodds, Morgan R. Frank.
3. Longitudinal Complex Dynamics of Labour Markets Reveal Increasing Polarisation. Shahad Althobaiti, Ahmad Alabdulkareem, Judy Hanwen Shen, Iyad Rahwan, Morgan Frank, Esteban Moro, Alex Rutherford.
4. Industrial Topics in Urban Labor System. Jaehyuk Park, Morgan R. Frank, Lijun Sun, Hyejin Youn.
5. Constructing a taxonomy of fine-grained human movement and activity motifs through social media. M. R. Frank, J. R. Williams, L. Mitchell, J. P. Bagrow, P. S. Dodds, C. M. Danforth.
6. Shadow networks: Discovering hidden nodes with models of information flow. J. P. Bagrow, S. Desu, M. R. Frank, N. M, L. Mitchell, A. Reagan, E. Clark, L. B. Booker, L. K. Branting, M. J. Smith, B. F. Tivnan, C. M. Danforth, P. S. Dodds, J. C. Bongard.
7. Exposure of occupations to technologies of the fourth industrial revolution. B. Meindl, M.R. Frank, J. Mendonça.

Thought Pieces

- Artificial Intelligence and the labor market. The Internet Sectoral Overview published by the Regional Center for Studies on the Development of the Information Society (Cetic.br) of Brazil
- What the Energy Transition Means for Jobs. Published by Issues in Science and Technology (2024).
- Brief for the Canada House of Commons Study on the Implications of Artificial Intelligence Technologies for the Canadian Labor Force: Generative Artificial Intelligence Shatters Models of AI and Labor. Invited by the House of Commons of Canada for their study on the Implications of Artificial Intelligence Technologies for the Canadian Labor Force (2023) (recording).
- Transformative Potential of AI: Innovation, impact, and implications for the future workforce. Published by Santander X Xpert (2023).
- The duality of decent work in the AI economy. Published by the AI Policy Lab (2021).

Data Sets & Resources

- A national longitudinal dataset of skills taught in U.S. higher education curricula

Talks and Presentations

- Keynote for the UrbanNetAI Satellite at NetSci 2026 (2026)
- Keynote for The Frontier of AI: Weatherhead's Annual Symposium on Digital Innovation at Case Western Reserve University (2026)
- Invited lecture for the Network and Graph Data Research Interest Group seminar series at UVA Data Science (2026)
- Invited talk for the Heinz Informal Lunch Seminar (HILS) at Carnegie Mellon University's Heinz College (2026)

- Invited talk for the Tufts University Osher Lifelong Learning Institute (2026)
- Invited talk for the AI x Science Symposium (2026)
- Invited talk for the University of Central Florida's College of Business Administration's Dean's Speaker Series (2026)
- Keynote for the EIT Presents: The Future of Work with AI event at the University of Houston (2026)
- Invited talk for the Dean's Speaker Series at the School of Computing and Information at the University of Pittsburgh (2026)
- Contributed talk at the AI and the Future of Work Conference at the Wharton School at the University of Pennsylvania (2026)
- Keynote for the Networked Urban Life in the Age of AI Satellite at NetSci 2025 (2026)
- invited talk for AI and the Future of Work: Building Pathways to Early-Career Opportunity Workshop by the Jobs for the Future Foundation (2025)
- contributed talk at Complex Networks 2025 (2025)
- invited presenter for micro1's series "Reshaping the Future of Work" with Microsoft AIEI (2025)
- keynote presentation for the Pittsburgh Regional Policy Forum (2025)
- invited talk for the University of Tennessee Distinguished Speaker Series (2025)
- invited talk for 2025 Behavioral Economics Design Initiative (BEDI) Health & Wellness Conference (2025)
- invited panelist for the Pitt Business Impact Conference on Artificial Intelligence 2025 (2025)
- invited presentation for the C3 Webinar hosted by the US Chamber of Commerce Foundation (2025)
- invited presentation and panelist for the AI: Who Wins and Who Loses conference at CMU (2025)
- invited presentation for the Wednesdays@NICO seminar series at Northwestern University (2025)
- invited presentation for the 1st Seminar of the Brazilian Observatory on AI (OBIA) through the Brazilian Network Information Center (2024)
- invited presentation for the University of Pennsylvania Wharton School's Webinar Series on AI and Effects on Workforce (2024)
- keynote for the 10th workshop on Economic & Financial Networks NetSci Satellite (2024)
- invited lecture for the US Collegiate Athletic Association (USCAA) Annual Convention (2024)
- contributed talks at the UPenn Wharton School's AI and Future of Work conference (2024)
- contributed talks to IC2S2 2024 (2024)
- contributed talks to NetSci 2024 (2024)
- two contributed talks to ICSSI 2024 (2024)
- invited panelist for the ALLY Energy Workforce of the Future Summit (2024)
- invited Digital Future panel discussion on The Dark Side of AI (2023)
- invited talk for the MIT Media Lab Computational Social Science Seminar (2023)
- invited talk for the D&I Serminar Series at the Weatherhead School of Management at the Case Western Reserve University (2023)
- poster at Flux 2023 (2023)
- invited presentation for the Causal Inference in Scientometrics workshop at International Conference on Scientometrics and Informetrics (2023)

- Complex System Approaches to 21st Century Challenges: Inequality, Climate Change, and New Technologies at the Sante Fe Institute (2023)
- invited lecture for the Pitt RESI Seminar Series on Generative AI: Opportunities, Risks, and Implications for Higher Education (2023)
- three contributed talks accepted for IC2S2 (2023)
- invited research presentation for the Employment, Labour And Social Affairs Department of the OECD (2023)
- two contributed talks to NetSci (2023)
- Plenary speaker for the Pitt University Faculty Assembly (2023)
- contributed talk at NetSciX 2023 (2023)
- invited talk for the Societal Impact of Machine Creativity Workshop (2023)
- Contributed talk for NetSciX 2023 (2023)
- Panelist for The Science of Team Science & Innovation workshop (2022)
- Contributed talk to ASSA 2023 Annual Meeting (0)
- Panelist for the Brookings Institute event on Artificial intelligence and upskilling (2022)
- Computational Social Science seminar at CMU's Institute for Software Research (0)
- keynote for the 12th NIC.br Annual Workshop on Survey Methodology (2022)
- oral presentation for ERSA 2022 (2022)
- one oral presentation and one poster presented at NetSci (2022)
- contributed talk to 2022 EA Annual Meeting special session on Careers and Classrooms: How Labor Market Opportunities and Education Decisions Interact (2022)
- invited talk for the Pillars EconPol Conference (2022)
- invited talk for the AI Economics Lab at Orebro University (2022)
- invited talk for the Rejuvenating Regions in Decline Workshop (2022)
- one talk and two posters at IC2S2 (2022)
- keynote for the PILLARS - Pathways to Inclusive Labour Markets (2022)
- Invited talk for the Economic Statistics Centre of Excellence (2022)
- Invited talk for the Stanford Digital Economy Lab Annual Workshop (2021)
- invited talk for the INFORMS 2021 Computational Social Science session (2021)
- invited presentation for the ANET Seminar Series (0)
- Invited talk and panel discussion at the 2021 Digital Economy Lab Workshop at Stanford University (2021)
- Invited Panelist on the Effects of AI on the Workforce at RIIAA 2021. (2021)
- two oral presentations at the Urban Complex Systems Satellite at the Conference on Complex Systems 2021. (2021)
- invited lecture for the MassMutual Data Science Team (2021)
- invited talk at the Summer Institute in Computational Social Science, Beijing (2021)
- two accepted talks at IC2S2 2021. (2021)
- two accepted talks at Networks 2021. (2021)
- invited talk in the Computational Social Science General Session at the INFORMS 2021 Annual Meeting (2021)

- oral presentation for Urban Complex Systems (2020) Satellite to CSS (2020)
- MIT Building Back Better event (2020)
- keynote presentation for The Impact of AI on White Collar Work virtual conference (2020)
- invited lecture for the Workshop on Technology, Business Practices, and Covid-19 Impacts on The Future of Work at Harvard (2020)
- invited presentation for the Australian Cyber Collaboration Centre (AC3) (2020)
- oral presentation NetSci (2020)
- oral presentation IC2S2 (2020)
- invited lecture for AI LA (2020)
- invited panel discussion at the 2020 Social Enterprise Conference at the Harvard Kennedy School and the Harvard Business School [note: canceled for COVID-19] (2020)
- invited lecture for the workshop on *Building non-Euclidian spaces to measure, understand, and navigate complex social transitions* at the Complexity Science Hub, Vienna [note: canceled for COVID-19] (2020)
- invited lecture for the Inter-American Developmental Bank (IDB) Skills Development workshop (2020)
- invited talk for Imagination in Action at the World Economic Forum Annual Meeting in Davos (2020)
- poster presentation at INFORMS (2019)
- data science seminar lecture at the University of Adelaide (2019)
- invited lecture at Bank SA/Westpac Australia (2019)
- invited talk at DisruptHR Boston (2019)
- oral presentation at the 2019 Conference on Complex Systems (2019)
- invited lecture at the Growth Lab Seminar at the Harvard Kennedy School (2019)
- invited lecture at the Harvard Business School Seminar in Economics of Science and Engineering (2019)
- invited talk at Universita LUM (2019)
- oral presentation at IC2S2 (2019)
- oral presentation at the annual update for MIT Connection Science (2019)
- invited talk at Imagination in Action (2019)
- invited lecture at the MIT Task Force on the Future of Work (2019)
- invited lecture at the Policy Summit at the Federal Reserve Bank of Cleveland (2019)
- two oral presentations at NetSci (2019)
- invited talk for the Labor Markets and Social Security Division of the Inter-American Developmental Bank (2018)
- invited talk at the Opportunity & Inclusive Growth Institute conference hosted by the Federal Reserve Bank of Minneapolis (2018)
- oral presentation at the MIT Sloan IDE Seminar series (2018)
- four abstracts accepted to IC^2S^2 (2018)
- invited talk at the Harvard Biomathematics Group (2018)
- invited talk at Harvard-ILO Roundtable on the Future of Work (2017)
- two Oral presentations at IC^2S^2 (2017)

- invited mini symposium talk at SIAM Annual Meeting (2016)
- oral presentation at IC^2S^2 (2016)
- oral presentation at APCTP 2016 Workshop on Frontiers of Physics (2016)
- poster presentation at NetMob (2015)
- invited talk at Data Xu, Boston (2015)
- poster presentation at SIAM Dynamical Systems Conference (2013)
- poster at The Brown University Symposium for Undergraduates in the Mathematical Sciences (2012)
- poster presentation at UVM Student Poster Competition (2012)

Selected Press

- Is AI putting graduates out of work already?. The Economist (2026)
- The evidence-based case against AI career pessimism. Vested Interest Newsletter (Wealthfront) (2026)
- Who's losing their jobs to AI?. Pittwire, University of Pittsburgh (2026)
- How big a threat is AI to entry-level jobs?. The Economist (2026)
- The AI job cuts are here—or are they?. BBC News (2025)
- Layoffs being blamed on artificial intelligence.. Television interview with Local News Live (2025)
- 'The frontier is moving': AI is already making it harder for some to find a job. Boston Globe (2025)
- CMU, Pitt join other universities to study artificial intelligence's impact on workforce.. 90.5 WESA, Pittsburgh NPR (2025)
- CMU, Pitt will participate in initiative tracking AI job disruption backed by $1.6M gift. Pittsburgh Business Times (2025)
- These 10 Charts Prove Clean Energy Is Winning Despite Donald Trump's Efforts. Mother Jones (2025)
- AI & Unemployment with Dr. Morgan Frank. The Narrow Window podcast (2025)
- How might AI help you find a job?. Cleveland Plain Dealer (2024)
- California's Oil Country Hopes Carbon Management Will Provide Jobs. It May Be Disappointed. Inside Climate News (2024)
- InfoTrak Radio. Interview with the InfoTrak Radio podcast (2023)
- The biggest barrier to getting fossil fuel workers into green jobs? Not skills, but location. Fast Company (2023)
- AI Raises Complicated Questions About Authorship. Inside Higher Ed (2023)
- Why generative AI is a minefield for copyright law. Fast Company (2023)
- The Texas problem: All the workers who have the jobs for green energy are in fossil fuels and don't want to move. Fortune (2023)
- How can fossil fuel workers be supported in transitioning to green jobs?. World Economic Forum (2023)
- AI: Lessons from the Frontier.. Charter strategy briefing memo (2023)
- Fossil fuel workers have the skills to succeed in green jobs, but location is a major barrier to a just transition.. The Conversation (2023)
- Popular A.I. services for creating images are legal minefields for artists seeking payment for their work.. Fortune (2023)
- The Importance of People Leaders in AI Adoption.. Charter Works (2023)

- Generative AI is a minefield for copyright law.. The Conversation (2023)
- Generative AI: Just don't call it an 'artist' say scholars in Science magazine.. ZDNET (2023)
- If art is how we express our humanity, where does AI fit in?. MIT News (2023)
- A long view of AI's impact on skills.. Charter Works (2023)
- The Green Revolution Will Not Be Painless. The Atlantic (2023)
- Vigilancia o falta de control: La geopolítica de la inteligencia artificial que enfrenta a las potencias. El Mercurio (2022)
- Job connectivity improves resiliency in US cities, study finds. MIT News (2021)
- Is It Really Possible For The Next Silicon Valley To Emerge In A Small Town?. Forbes (2021)
- The Role of AI and Emerging Technologies in Achieving SDG8: Decent Work and Economic Growth. AI Policy Lab (2020)
- What it takes for a city to jump into the knowledge economy. Quartz (2020)
- Working from 'anywhere' is possible – but not sustainable. Fast Company (2020)
- Innovative cities follow a unique historical pattern, study shows. Kellogg Insight (2020)
- Augmentation: The Promise and Possibility of Human-Machine Collaboration. Invested. The Federal Reserve Bank of Boston (2019)
- How AI Helps Manage Complex IT Operations; AI, Social Sciences Gap Widens; Predicting Asset Prices. Wall Street Journal (2019)
- AI and the Social Sciences Used to Talk More. Now They've Drifted Apart. Kellogg Insight (2019)
- How cognitive tech is influencing the skills of the future. Interview on the Capital H podcast from Deloitte (2019)
- Why Poor Data Undermines Our Attempt To Understand The Future Of Work. Forbes (2019)
- Developing New Methodology to Measure Technology's Impact on the Future of Work. SAGE Publishing (2019)
- Distinct Workplace Skills Could Explain Disappearance of U.S. Middle Class. American Association for the Advancement of Science (2018)
- How Will Automation Affect Different U.S. Cities?. Kellogg Insight (2018)
- Over 3M jobs will be at risk in the GCC if not adapted to AI advancements: The time is now. Wamda (2018)
- Intelligent Automation: Rethinking Work and Technology for the Digital Age. Appia (2018)
- Countries that play together stay together. Nature Middle East (2018)
- Automation Will Make Megacities Grow Way Faster. MIT Tech Review (2017)
- In These Small Cities, AI Advances Could Be Costly. MIT Tech Review (2017)
- The Regional Impact Of Automation. The Huffington Post (2017)
- Scientists Are Judging Your Diet Based On Your Tweets. Men's Health (2017)
- Instrument Measures Calorie Consumption By Monitoring "Tweets". Nutrition Insight (2017)
- Happy or sad, this is how the internet can tell. The World Economic Forum (2017)
- How Changing Economies Affect Local Communities. The Huffington Post (2017)
- Automation will have bigger impact on jobs in smaller cities. New Scientist (2017)
- How to Go On Staycation Without Feeling Cheated. Fast Company (2016)

- The Geography of Happiness According to 10 Million Tweets. The Atlantic (2013)
- Amy Drinks in Napa.. The Ellen Degeneres Show (2013)
- New Study Uses Tweets to Rank America's Happiest Cities, States. Time Magazine (2013)
- The Saddest Tweeters Live in Texas. National Geographic (2013)
- Happiest Cities, Most Miserable Cities Lists Reveal Disparity in Bay Area. Huffington Post (2013)
- Study: geotagged tweets show we're happiest further from home. Wired Magazine (2013)
- We're Happier When We're Farther From Home, Twitter Patterns Show. Discover Magazine (2013)
- Pretty City Images Reveal How People Move. Live Science (2013)
- The Sentiments of Cities. Wired Magazine (2012)
- Social Scientists Wade into the Tweet Stream. Science Magazine (2011)
- Science Proves Twitter Really Has Become More Sad Since 2009. Time Magazine (2011)

Honors and Awards

- Faculty Honors Convocation Honoree, University of Pittsburgh (2026)
- winner of Best Poster at IC^2S^2 (2018)
- Award for Excellence in Graduate Research in Mathematics at the University of Vermont (UVM) (2014)
- winner of the Siam Dynamical Systems "Red Sock" Award for the Poster Competition (2013)
- UVM CEMS Dean's Recognition Award (2012)
- winner of the UVM Student Research Poster competition (2012)
- UVM Graduate Student Senate Research Award (2012)
- completed Undergraduate Honors Program culminating in an honors thesis (2012)

Student Advising:

- Alireza Javadian Sabet, PhD Student
- Arezou Farzaneh, PhD Student
- Wendi Li, PhD Student
- Qing Chang, Postdoc. Co-appointed in Pitt GSPIA
- Dr. Hung Kim Chau (2020-2023). Now Now at Zillow.
- Josh Minot (2021-2022). Now Visiting Student. Now at MassMutual Data Science..
- Lakshmi Ravichandran (2020-2021). Now Research Intern. Now doing Web Development & Data Visualization for the University of Pittsburgh..

Editorial Service:

- Associate Editor for EPJ Data Science (2026-current)
- Review Editor for Frontiers in Big Data's Data Analytics for Social Impact (2023-present)
- Guest Editor for PNAS (2025)

I have reviewed articles for:

- Network Science
- IC^2S^2 2025
- PLOS Complex Systems
- Nature Communications
- Communications of the ACM
- Economic Geography
- ICWSM 2024
- PNAS NEXUS
- Nature Human Behaviour
- Generative AI + Law (GenLaw) (2023)
- Management Science
- Technology in Society
- ICWSM 2023
- PNAS
- EPA: Economy and Space
- Nature Scientific Reports
- BMJ Open
- ICWSM 2022
- SN Business & Economics
- Science Robotics
- Patterns
- ACM Conference on Computer-Supported Cooperative Work and Social Computing 2020
- the Journal of the Royal Society Interface
- Technological Forecasting and Social Change
- Journal of Computers in Industry
- IC2S2 2020
- 2020 Strategic Management Society Special Conference in Hangzhou
- Science Advances
- Nature Machine Intelligence
- PLOS ONE
- Journal of Computational Science
- WWW 2017
- ICWSM 2017
- International Journal of Information Technology and Decision Making (IJITDM)
- EPJ Data Science
- the Journal of the Royal Society Open Science

Other Service:

- PC member IC2S2 2026
- PC member for EX-ASE 2025
- Advisor to the Powering Economic Opportunity Fund (2025)
- co-organizer 2025 IEEE Technical Symposium in Western Pennsylvania
- Reviewer for the Social Sciences and Humanities Research Council of Canada (SSHRC) Insight Grants (2025)
- Reviewer for the European Research Commission (ERC) (2024)
- PC member for ICWSM 2024
- PC member for Netsci-X 2024
- PC member for IEEE CogMI 2023
- PC member for IC2S2 2023
- PC member for KDD 2022 workshop on Data-driven Humanitarian Mapping
- PC member for CCS2022
- session organizer INFORMS 2022
- Organizer of the NetSci 2022 Satellite on Complex Networks in Economics and Innovation
- Organizer of the Complex Networks in Economics and Innovation Special Session for the ERSA Congress 2022
- Organizer of the Networks 2021 Satellite on Complex Networks in Economics and Innovation
- PC member for the Conference on Complex Systems (2021)
- Panel reviewer for NSF Future of Work at the Human-Technology Frontier: Core Research (FW-HTF) 2021
- Reviewer of policy proposals for the 2021 Stanford University HAI Fall Conference
- PC member for the 2nd KDD Conference Workshop on Data-driven Humanitarian Mapping (2021)
- PC member for IC2S2 2021
- Session Chair for the New Future of Work Symposium 2020 hosted by Microsoft Research
- Topic Editor, Research Topic in Complex Networks and Economics, Frontiers in Big Data
- Session Chair ICCS 2020
- Organizing Committee Web Chair IC^2S^2 2020
- Conference Program Committee for Northeast Regional Conference on Complex Systems (NERCCS) 2020