Przemyslaw A. Grabowicz

Homepage, Google Scholar, LinkedIn, Blog

Research Assistant Professor of Computer Science

Manning College of Information and Computer Sciences

University of Massachusetts Amherst (UMass Amherst)

CONTACT: +1 234 863 1479, grabowicz@cs.umass.edu

LANGUAGES: Polish (native), English (fluent), Spanish (very good), German (basic)

AREAS OF EXPERTISE

Responsible AI • Computational social science • Social media • Data science • Causality

EMPLOYMENT HISTORY

Research Assistant Professor of Computer Science, Manning College of Information and

Computer Sciences, University of Massachusetts Amherst, USA

Head of Socially Intelligent Media and Systems (SIMS) lab

Chair of the EQUATE initiative

2013–2018 Postdoctoral Fellow at the Max Planck Institute for Software Systems, Saarbrücken, Ger-

many

Mentor: Dr. Krishna P. Gummadi

2008-2013 Research Assistant at the Institute for Cross-Disciplinary Physics and Complex Systems,

Palma de Mallorca, Spain

Research Intern at Yahoo! Research, Barcelona, Spain (6.5 months)

2011 Research Intern at Indiana University School of Informatics and Computing, Bloomington,

USA (4 months)

2010 Research Intern at Universidad Carlos III, Madrid, Spain (3.5 months)

EDUCATION

Oct. 2008 PHD in Interdisciplinary Physics, University of Balearic Islands, Spain

- Jan. 2014 Grade: Cum Laude

Thesis title: Complex networks approach to modeling online social systems: The emergence of computational social science

Advisors: Dr. José Ramasco and Dr. Víctor Martinez Eguíluz

Oct. 2003 MSc in Applied Physics, Warsaw University of Technology, Poland

– July 2008 Grade: Cum Laude

Thesis title: Phase transitions in exponential random graph models

Advisor: Dr. Agata Fronczak

May 2016 Machine Learning Summer School (MLSS), Cadiz, Spain.

Admission via a competitive selection process

RESEARCH FUNDING

pending NSF MMS (\$1.05M)

submission Mining and Forecasting Public Opinion Using Novel Data Sources

PI: P.A. Grabowicz, co-PIs: Alexander Theodoridis, JungHwan Yang, Jacob Montgomery, Rajiv Sethi

pending NSF SaTC: CORE: Small (\$0.6M)

submission Political misinformation through biased polls: Identification, prevalence, and harm mitigation

| PI: | P.A. | <u>Grabowicz</u> , | co-PIs: | JungHwan | Yang, | Filippo Meno | czer |
|-----|------|--------------------|---------|----------|-------|--------------|------|
|-----|------|--------------------|---------|----------|-------|--------------|------|

pending NSF IIS: RI: Small (\$0.6M) submission Trustworthy Model Explanations

PI: Yair Zick, co-PIs: Grabowicz (responsible for nearly half of the project)

2023-2024 Interdisciplinary Research Grant from UMass Amherst (~ \$100K equivalent)

Analyzing cross-country bias in news coverage of international conflicts and disasters

PI: P.A. Grabowicz, co-PIs: Paul Musgrave, Brendan O'Connor, Ethan Zuckerman

2023–2024 Interdisciplinary Research Grant from UMass Amherst (~ \$100K equivalent)

Political misinformation and disinformation through social media biases

PI: P.A. Grabowicz, co-PIs: Monideepa Tarafgar, Jennifer Lundquist, Anthony Paik, Mattia Samory, JungHwan Yang

2020–2023 DARPA's SAIL-ON program (\$1.9M)

Continuous Iterative Modeling and Repair in Response to Novelty

PI: David Jensen, senior personnel: P.A. Grabowicz

2020–2022 Volkswagen Foundation: International Research in Computational Social Sciences (€120K)

Agendas and Frames in a Global Pandemic: Evolution of Cross-country Media Coverage

PI: P.A. Grabowicz, Scott Hale, David Jurgens, Fabian Flöck (Scott Hale and me led the project)

2017–2022 Volkswagen Foundation: International Research in Computational Social Sciences (€850K)

Current Affairs 2.0: Agenda Setting in the European Union

PI: P.A. Grabowicz, Scott Hale, David Jurgens, Fabian Flöck (I led the project with Scott Hale)

2009–2013 CSIC JAE Predoc fellowship (~ €100K)

Applications of complex networks in collective systems studies

PI: P.A. Grabowicz

AWARDS AND PRIZES

Best paper with poster presentation award, The Web Conference (WWW)

Demographic Inference and Representative Population Estimates from Multilingual Social Media Data

2013 WICI Data Challenge main prize, University of Waterloo (\$10K)

Fast Visualization of Relevant Portions of Large Dynamic Networks

2004–2008 Mieczysław Krol scholarship, Warsaw University of Technology (30K PLN)

2004–2008 Scholarship for outstanding student performance, Warsaw University of Technology (30K PLN)

Publications

NOTE 1: To every publication I co-authored I contributed at minimum multiple pages of text and formulas or a significant self-contained piece of code and the results of its execution.

NOTE 2: I did not publish in 2018 due to a parental leave taken for the birth of my first child, alongside the commitment to oversee the reconstruction of my disabled sister's residence. Caring for my sister has become my responsibility since the tragic loss of our parents, as outlined in my diversity statement.

LEGEND:

* - top 5 most important publications,

† – equal contribution,

short - short paper, typically 5 pages double column.

PEER-REVIEWED PUBLICATIONS IN COMPUTER SCIENCE PROCEEDINGS

2024 * (15) Xi Chen, S. Hale, D. Jurgens, M. Samory, E. Zuckerman, <u>P.A. Grabowicz</u>, *Global News Synchrony and Diversity During the Start of the COVID-19 Pandemic*, The Web Conference (WebConf), preprint

Importance: The first study explaining global news synchrony and diversity of 124 countries. We introduce a computational methodology for analyzing millions of news articles that combines a transformer model (a deep learning architecture) with network science and information theory techniques. I aim to use and further develop this methodology to study global news synchrony and biases in news coverage across long time periods of years.

- (14) <u>P.A. Grabowicz</u>[†], N. Perello[†], K. Takatsu, *Learning from Discriminatory Training Data*, AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES), 2023, <u>link</u>
- ^{2022*} (13) <u>P.A. Grabowicz</u>, N. Perello, A. Mishra, *Marrying Fairness and Explainability in Supervised Learning*, ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT), 2022, arxiv

Importance: The manuscript introduces an accountability framework that uses AI explainability techniques, including a novel causal measure of input influence, to ensure fairness in AI systems in accordance with legal provisions. The publication led to a series of blog posts and a proposal for an AI accountability policy.

- 2022 (12) Xi Chen, A. Zeynali, Ch.Q. Camargo, F. Flöck, D. Gaffey, <u>P.A. Grabowicz</u>, S. Hale, D. Jurgens, and M. Samory, *SemEval-2022 Task 8: Multilingual news article similarity*, The Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), codalab link
- (11) A. Mishra, N. Perello, <u>P.A. Grabowicz</u>, *Towards Fair and Explainable Supervised Learn-*short ing, International Conference on Machine Learning (ICML), Workshop on Socially Responsible Machine Learning, 2021, pdf
- (10) T. E. Boult, <u>P.A. Grabowicz</u>, D. S. Prijatelj, R. Stern, L. Holder, J. Alspector, M. Jafarzadeh, T. Ahmad, A. R. Dhamija, C. Li, S. Cruz, A. Shrivastava, C. Vondrick, W. J. Scheirer, *Towards a Unifying Framework for Formal Theories of Novelty*, The AAAI Conference on Artificial Intelligence (AAAI), arxiv

Importance: The first formal framework for open-world learning. I envision applying open-world learning techniques to identify news events and emerging societal issues based on data streams from social media and news media.

2019 * (9) Z. Wang, S. Hale, D. Ifeoluwa Adelani, <u>P.A. Grabowicz</u>, T. Hartman, F. Flöck and D. Jurgens, *Demographic Inference and Representative Population Estimates from Multilingual Social Media Data*, The Web Conference (WebConf), arxiv

Importance: The work develops and applies a demographic classifier and poststratification methods. I developed the poststratification part of this paper (3.5 pages). I apply and develop the proposed methods to mine public opinion from tens of thousands of political polls. My lab pioneers methods for collections of biased polls with demographic crosstabs.

- 2017 (8) J. Proskurnia, <u>P.A. Grabowicz</u>, R. Kobayashi, C. Castillo, P. Cudre-Mauroux, K. Aberer, *Predicting the Success of Online Petitions Leveraging Multidimensional Time-Series*, The World Wide Web Conference (WWW), pdf
- (7) <u>P.A. Grabowicz</u>, N. Ganguly, K. Gummadi, *Distinguishing between Topical and Nontopical Information Diffusion Mechanisms in Social Media*, The International AAAI Conference on Web and Social Media (ICWSM), link

- 2016 (6) <u>P.A. Grabowicz</u>, M. Babaei, J.Kulshrestha, K. Gummadi, I.Weber, *The Road to Popularity:*short the Dilution of Growing Audience on Twitter, The International AAAI Conference on Web
 and Social Media (ICWSM), link
- (5) M. Babaei[†], <u>P.A. Grabowicz</u>[†], I. Valera, K.P. Gummadi, M. Gomez-Rodriguez, *On the Efficiency of the Information Networks in Social Media*, The ACM International Conference on Web Search and Data Mining (WSDM), pdf
- 2015 (4) <u>P.A. Grabowicz</u>, N. Ganguly, K.P. Gummadi, *Microscopic Description and Prediction of Information Diffusion in Social Media: Quantifying the Impact of Topical Interests*, The World Wide Web Conference (WWW) Companion, pdf
- 2015 (3) M. Babaei, <u>P.A. Grabowicz</u>, I. Valera, M. Gomez-Rodriguez, *On the Users' Efficiency in the Twitter Information Network*, The International AAAI Conference on Web and Social Media (ICWSM), pdf
- (2) L. Chiarandini[†], <u>P.A. Grabowicz</u>[†], M. Trevisiol, A. Jaimes, *Leveraging Browsing Patterns* for Topic Discovery and Photostream Recommendation, The International AAAI Conference on Web and Social Media (ICWSM), pdf
- 2013 (1) <u>P.A. Grabowicz</u>, L.M. Aiello, V.M. Eguiluz, A. Jaimes, *Distinguishing Topical and Social Groups Based on Common Identity and Bond Theory*, The ACM International Conference on Web Search and Data Mining (WSDM), pdf

Journals¹

- (9) S. Scarano, V. Vasudevan, M. Samory, J. Yang, <u>P. Grabowicz</u>, *Analyzing Support for U.S. Presidential Candidates in Social Polls*, Journal of Quantitative Description: Digital Media (JQD:DM, joint with ICWSM)
- (8) Xi Chen, M. Samory, S. Hale, D. Jurgens, <u>P. Grabowicz</u>, *A Multilingual Similarity Dataset* for News Article Frame, the International AAAI Conference on Web and Social Media (ICWSM)
- 2020 (7) D.I. Adelani, R. Kobayashi, I. Weber, <u>P.A. Grabowicz</u>, *Estimating community feedback* effect on topic choice in social media with predictive modeling, EPJ Data Science, 9, 25 link
- (6) C.A. Davis, G.L. Ciampaglia, L.M. Aiello, K. Chung, M.D. Conover, E. Ferrara, A. Flammini, G. Fox, X. Gao, B. Goncalves, <u>P.A. Grabowicz</u>, K. Hong, P. Hui, S. McCaulay, K. McKelvey, M.R. Meiss, S. Patil, C. Peli Kankanamalage, V. Pentchev, J. Qiu, J. Ratkiewicz, A. Rudnick, B. Serrette, P. Shiralkar, O. Varol, L. Weng, T. Wu, AJ Younge, F. Menczer, *OSoMe: The IUNI observatory on social media*, PeerJ Computer Science 2:e87 link
- (5) <u>P.A. Grabowicz</u>, J.J. Ramasco, B. Goncalves, V.M. Eguiluz, *Entangling mobility and interactions in social media*, PLoS ONE 9(3): e92196, link
- 2014 (4) <u>P.A. Grabowicz</u>, L.M. Aiello, F. Menczer, *Fast filtering and animation of large dynamic networks*, EPJ Data Science, 3(1), 27, link

^{&#}x27;In 2019, ICWSM became a journal with a full revise and resubmit (R&R) process and rolling submissions.

- (3) D. Martin-Borregon, L.M. Aiello, <u>P.A. Grabowicz</u>, A. Jaimes, R. Baeza-Yates, *Characterization of online groups along space, time, and social dimensions*, EPJ Data Science, 3(1), 8, 2014, link
- 2012 (2) <u>P.A. Grabowicz</u>, J.J. Ramasco, E. Moro, J.M. Pujol, V.M. Eguiluz, *Social Features of Online Networks: The Strength of Intermediary Ties in Online Social Media*, PLoS ONE 7(1): e29358, link
- 2012 (1) <u>P.A. Grabowicz</u>, V.M. Eguiluz, *Heterogeneity shapes groups growth in social online communities*, EPL 97 28002, link

BOOKS AND EDITED VOLUMES

- 2023 (2) <u>P.A. Grabowicz</u>, C. Pereyda, K. Clary, R. Stern, T.E. Boult, D.D. Jensen, L. B. Holder, Chapter *Novelty in 2D CartPole Domain* in the edited volume *A Unifying Framework for Formal Theories of Novelty*, Springer
- 2012 (1) <u>P.A. Grabowicz</u>, J.J. Ramasco, V.M. Eguiluz, Chapter *Dynamics in online social networks* in the edited volume *Time-Varying Networks*, Springer, link

IN THE REVISE AND RESUBMIT PROCESS

- (2) S. Scarano, V. Vasudevan, M. Samory, K. Yang, J. Yang, <u>P. Grabowicz</u>, *Election Polls on Social Media: Prevalence, Biases, and Voter Fraud Beliefs*, submission to the International AAAI Conference on Web and Social Media (ICWSM R&R)
 - Importance: The first study of social media polls. More than 100,000 biased polls related to the 2020 U.S. presidential election were published on Twitter. Our results suggest that polls were used for campaigning and astroturfing. Thousands of such polls explicitly questioned traditional polls and spread election fraud beliefs. In future, we will study whether biased political polls on X reinforce voter fraud beliefs and mine public opinion using AI-supported poststratification techniques.
- (1) C. Bagchi, E. Malmi, <u>P.A. Grabowicz</u>, *Effects of Research Paper Promotion via ArXiv and X*, submission to the International AAAI Conference on Web and Social Media (ICWSM R∜R)

PUBLIC POLICY WHITE PAPERS AND POSITION PAPERS

- 2023 (3) N. Perello, <u>P.A. Grabowicz</u>, *Fair machine learning post affirmative action*, ACM SIGCAS short Computers and Society (an invited commentary, to appear)
- (2) P.A. Grabowicz, N. Perello, Y. Zick, Towards an AI Accountability Policy, Comment on FR Doc # 2023-07776 Posted by the National Telecommunications and Information Administration, planned submission to ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT) or AAAI/ACM Conference on AI, Ethics, and Society, pdf
- (1) <u>P.A. Grabowicz</u>, *Open-source Web 2.0 System for the European Open Science Cloud*, Letter to the High Level Expert Group (HLEG) of the European Open Science Cloud (EOSC), <u>link</u>

PEER-REVIEWED EXTENDED ABSTRACTS IN COMPUTATIONAL SOCIAL SCIENCE

2024 (13) C. Bagchi, E. Malmi, <u>P.A. Grabowicz</u>, *Effects of Research Paper Promotion via ArXiv and X*, submission to the International AAAI Conference on Web and Social Media (IC2S2)

- (12) S. Scarano, V. Vasudevan, M. Samory, J. Yang, <u>P. Grabowicz</u>, *Analyzing Support for U.S. Presidential Candidates in Social Polls*, Journal of Quantitative Description: Digital Media (IC2S2)
- (11) Xi Chen, S. Hale, D. Jurgens, M. Samory, E. Zuckerman, <u>P.A. Grabowicz</u>, *Global News Synchrony and Diversity During the Start of the COVID-19 Pandemic* (IC2S2)
- 2024 (10) S. Scarano, V. Vasudevan, M. Samory, J. Yang, <u>P. Grabowicz</u>, Can Social polls be an accurate source of public opinion?: Correcting Biases of Twitter polls using post-stratification methods, Midwest Political Science Association Annual Conference (MPSA)
- (9) D. Adelani, R. Kobayashi, I. Weber and <u>P.A. Grabowicz</u>, *Estimating Community Feed-back Effect on Topic Choice in Social Media*, International Conference on Computational Social Science (IC2S2)
- (8) <u>P.A. Grabowicz</u> and N. Perello, *Resilience of Supervised Learning Algorithms to Discriminatory Poisoning of Training Data*, International Conference on Computational Social Science (IC2S2)
- 2018 (7) Z. Wang, S. Hale, D. Ifeoluwa Adelani, <u>P.A. Grabowicz</u>, T. Hartman, F. Flöck and D. Jurgens, *Agendas on Social Media: Inferring Policy Attention from Non-representative Data*, International Conference on Computational Social Science (IC2S2)
- 2017 (6) J. Park, M. Babaei, <u>P.A. Grabowicz</u>, K. Gummadi and Sue Moon, *An Analysis of Sponsored Content on Twitter*, International Conference on Computational Social Science (IC2S2)
- (5) J. Proskurnia, <u>P.A. Grabowicz</u>, R. Kobayashi, C. Castillo, P. Cudre-Mauroux and K. Aberer, *Predicting the Success of Online Petitions Leveraging Multidimensional Time-Series*, International Conference on Computational Social Science (IC2S2)
- 2016 (4) <u>P.A. Grabowicz</u>, M. Babaei, J. Kulshrestha, K. Gummadi and I. Weber, *The Road to Popularity: the Dilution of Growing Audience on Twitter*, International Conference on Computational Social Science (IC2S2)
- 2016 (3) <u>P.A. Grabowicz</u>, F. Romero Ferrero, T. Lins, F. Benevenuto, G. Polavieja and Krishna Gummadi, *An Experimental Study of Opinion Influenceability*, International Conference on Computational Social Science (IC2S2)
- 2015 (2) <u>P.A. Grabowicz</u>, N. Ganguly and K. Gummadi, *Microscopic description of information diffusion*, International Conference on Computational Social Science (IC2S2)
- (1) <u>P.A. Grabowicz</u>, F. Romero Ferrero, T. Lins, G. Polavieja, F. Benevenuto and K. Gummadi, *An experimental study of social opinion manipulation*, International Conference on Computational Social Science (IC2S2)

IN PREPARATION

(4) N. Perello, <u>P.A. Grabowicz</u>, Y. Zick, *Discrimination Induced by Algorithmic Recourse Constraints*, submission to NeurIPS

- 2024 (3) <u>P.A. Grabowicz</u>, H. Snehi, N. Perello, Y. Zick, E. Zuckerman *Towards an AI Accountability Policy*, submission to AIES
- 2024 (2) C. Pereyda, L. Holder, J. Renz, S. Mohan, T.E. Boult, <u>P. Grabowicz</u>, W. Piotrowski, C. Xue, K. Clary, *Evaluating Adaptability Through Novel Domain Shifts*, submission to the International Conference on Autonomous Agents and Multiagent Systems (AAMAS)
- (1) <u>P.A. Grabowicz</u>, E.J. Kildebeck, R.J. Steininger, D.V. Olivenca, David J. Musliner, K. Clary, C.I. Pereyda, T.E. Boult, L. Holder, D.D. Jensen, *Adaptation and Resilience to Basic Novelty Categories in Open-World Learning*, submission to AI Journal (AIJ)

PREPRINTS

- 2020 (2) <u>P.A. Grabowicz</u>, F. Romero-Ferrero, T. Lins, F. Benevenuto, K.P. Gummadi, G.G. de Polavieja, *Bayesian Social Influence in the Online Realm*, link
- 2008 (1) D. Stauffer, <u>P.A. Grabowicz</u>, J. A. Hołyst, *Opinion Dynamics with Hopfield Neural Networks*, link

PEER-REVIEWED INDUSTRY AND DEMO PAPERS

- 2012 (2) <u>P.A. Grabowicz</u>, L. Chiarandini, M. Trevisiol, A. Jaimes, *Browsing and Recommendation of Photostreams*, Yahoo! TechPulse 2012
- 2012 (1) <u>P.A. Grabowicz</u>, L.M. Aiello, V.M. Eguiluz, A. Jaimes, *Distinguishing Topical and Social Groups Based on Common Identity and Bond Theory*, Yahoo! TechPulse 2012

TEACHING AND ADVISING

Courses taught

2022, 2023 Graduate course on Responsible Artificial Intelligence

Responsibilities: lectures, assignments, quizzes, final projects

Topics: model generalization, dataset shifts, open-world learning, fairness, explainability, transparency causality.

Textbooks: multiple sources, including my own research

Learning Management Systems: Piazza, Moodle, Gradescope, Echo360, Zoom

2021 Graduate seminar on Equitable and Explainable Artificial Intelligence

Responsibilities: introductory lectures and overall organization

Topics: fairness, legal systems, causality, and explainability in machine learning.

Textbook: https://fairmlbook.org.

Learning Management Systems: Piazza, Zoom

2019 Graduate seminar on Equitable Algorithms and Systems

Responsibilities: introductory lectures and overall organization

Topics: fairness, transparency, and explainability in machine learning

Learning Management Systems: Piazza

2016 Graduate course on Social Media Analysis

Responsibilities: lectures, tutorials, assignments, final exam

Topics: statistical classification, tf-idf, sentiment analysis, dimensionality reduction, mixture models, topic models

Textbook: https://web.stanford.edu/ jurafsky/slp3.

Student evaluation: 1.2/5 (less is better)

TEACHING INTERESTS

- (Responsible) Artificial Intelligence
- Machine Learning
- Data Science
- Data Mining
- Computational Social Science
- Network Science
- Causality
- Natural Language Processing
- Information Retrieval (introductory level)

PhD advises

| 2023-now | Chhandak Bagchi |
|-----------|--|
| 2023-now | Andrew Yuan |
| 2023-now | Justin Clarke, co-advised with David Jensen |
| 2020-now | Nicholas Perello, co-advised with Yair Zick |
| 2019-now | Xi Chen |
| 2017-2018 | David Ifeoluwa Adelani – now an Assistant Professor at McGill School of Computer Science and a |
| | Core Academic Member at MILA |

MS ADVISEES

| 2024-now | Jash Milesh Dalai |
|-----------|---|
| 2024-now | Vishal Kalakonnavar |
| 2024-now | Mayank Bumb |
| 2023-now | Vijayalakshmi Vasudevan |
| 2021-2024 | Stephen Scarano – graduated recently |
| 2020-2021 | Aarshee Mishra – now a Software Engineer at Apple |

OTHER PAST ADVISEES (ADVISED IN THE PAST FOR LESS THAN A YEAR)

- Kenta Takatsu now a PhD student at Carnegie Mellon University, USA
- Ali Zeynali now a PhD student at UMass Amherst, USA
- Kaleigh Clary now a PhD student at UMass Amherst, USA
- Mahmoudreza Babaei now a postdoc at the Max Planck Institute for Human Development
- Julia Proskurnia now a Software Engineer at Google, Zurich, Switzerland
- Luca Chiarandini now a Software Engineer at Google, California, U.S.A.
- Jaimie Yejean Park now Data Scientist at Samsung, South Korea
- Francisco Romero-Ferrero now Data Scientist at Veriff, Spain
- Eric Malmi now Research Scientist at Google Research, Zurich, Switzerland
- Komal Agrawal now a Software Engineer at Facebook, Zurich, Switzerland
- Theo Silva Lins now a Professor at UFOP, Brazil
- Ritvik Shrivastava now ML Engineer at Cisco, California, U.S.A.

BROADER IMPACT AND OUTREACH

Online software systems

Multimodal, multiattribute, multilingual (M3) demographic inference (demo)
The back end of a photo recommender system for Flickr (white paper)

The back end and front end allowing users of Truthy to create on-demand visualizations of memes spreading in Twitter (source code)

OUTREACH

Voices of Data Science

Opening talk.

Tech in the News

We developed and organized a series of faculty talks about technology targeting smart non-specialists.

PRESS RELEASES

| 2023 | BusinessWest, AI Promises To Impact The Workforce In Unexpected Ways, link. |
|----------|--|
| 2023 | EQUATE blog, Towards an AI Accountability Policy, link. |
| 2023 | UMass Amherst, Bridging Ethics and Technology in a Fast-changing World, link. |
| 2022 | EQUATE blog, How to train models that do not propagate discrimination?, link. |
| 2011-now | Hundreds of news articles related to the IUNI Observatory on Social Media in multiple news outlets |
| | (e.g., ABC News, CNBC, CNN, NYT, WSJ, WaPo, Wired), link. |
| 2013 | El Mundo, El oráculo de los bytes, link. |

INTERNAL PROFESSIONAL SERVICE

El Mundo, Los entresijos de Twitter, link.

COMMITTEE CHAIR

2022-now

2020

2011

EQUATE initiative (Equity, Accountability, Trust, and Explainability) at UMass Amherst Responsibilities: organization of relevant events, blog, website, and outreach (including to the U.S. federal administration)

COMMITTEE MEMBER

- Faculty Hiring Committee for Tenure Track Assistant Professor in Data Science, Associate Director for Data Science Center, and multiple Opportunity Hires
- Graduate Portfolio Committee (x2)
- Graduate Admissions Committee (x2)
- Student Events

EXTERNAL PROFESSIONAL SERVICE

AREA CHAIR OF CONFERENCES

The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)

The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)

SENIOR PROGRAM COMMITTEE OF CONFERENCES

The Web and Society track of The Web Conference (Web Conf'23)

REVIEWER FOR JOURNALS

- Journal of the Royal Society Interface
- Journal of Artificial Intelligence Research (JAIR)
- Social Network Analysis and Mining (SNAM)
- PLoS ONE
- Scientific Reports
- Network Science

- Europhysics Letters (EPL)
- Journal of Statistical Mechanics: Theory and Experiment (JSTAT)
- Entropy
- Advances in Complex Systems (ACS)
- Transactions on the Web (TWEB)
- Transactions on Knowledge and Data Engineering (TKDE)
- Applied Network Science (APNS)
- Information Systems Management
- Future Internet

PROGRAM COMMITTEE OF CONFERENCES

| | The International Conference on Community and Conic Colors (ICCC) |
|-----------|--|
| 2015-2024 | The International Conference on Computational Social Science (IC2S2) |
| 2017-2021 | The Web and Society track of The Web Conference (WebConf, former WWW) |
| 2017-2021 | The International Conference on Complex Networks and their Applications (Complex Networks) |
| 2018-2021 | The International AAAI Conference on Web and Social Media (ICWSM) |
| 2016-2020 | The International ACM Conference on Web Science (WebSci) |
| 2017-2019 | The European Symposium on Societal Challenges in Computational Social Science (EuroCSS) |
| 2017 | The International School and Conference on Network Science (NetSci) |
| 2015 | The IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining |
| | (ASONAM) |
| 2014-2017 | The International Conference on Social Informatics (SocInfo) |

EXTERNAL REVIEWER FOR CONFERENCES

| 2016 | 5th International World Wide Web Conference (WWW), Montreal, Canada |
|------|---|
| 2016 | ACM SIGKDD Conference on Knowledge Discovery and Data Mining, San Francisco, USA (SIGKDD) |

PROGRAM COMMITTEE OF WORKSHOPS

| 2016 | Workshop on Computational Approaches to Social Modeling (ChASM), Bellevue, USA |
|-----------|--|
| 2015-2016 | Computational Social Science Winter Symposium, Cologne, Germany |
| 2015-2016 | Workshop on Social News On the Web (SNOW) |

LOCAL ORGANIZER

International Conference on Economics Science with Heterogeneous Interacting Agents, Warsaw, Poland.

TALKS

INVITED TALKS

| 2023 | Responsible AI in the Natural Sciences, Carnegie Mellon University — talk, panel, summary slides. |
|------|--|
| 2023 | Computational Diversity Science Meeting, UMass Amherst. |
| 2022 | Tech in the News, UMass Amherst. |
| 2022 | 31st International Joint Conference on Artificial Intelligence and the 25th European Conference |
| | on Artificial Intelligence (IJCAI-ECAI 2022), Workshop of Angry Birds AI Competition (AIBIRDS), |
| | Vienna. |
| 2021 | 30th International Joint Conference on Artificial Intelligence (IJCAI-21), Workshop of Angry Birds |
| | AI Competition (AIBIRDS), Montreal. |

CONTRIBUTED TALKS

| 2023 | AIES, Seoul, South Korea; speaker Nicholas Perello. |
|------|--|
| 2023 | Computational Diversity Science Meeting, UMass Amherst, USA. |
| 2022 | FAccT, Seoul, South Korea; speaker Nicholas Perello. |

| 2022 | International Conference on Computational Social Science (IC2S2), Chicago, USA; speaker Xi Chen. |
|------|---|
| 2022 | Tech in the News, UMass Amherst, USA. |
| 2021 | Two talks at International Conference on Computational Social Science (IC2S2), virtual; speakers: |
| | me and David Adelani. |
| 2019 | Data Science Tea, UMass Amherst, USA. |
| 2017 | International Conference on Computational Social Science (IC2S2), Cologne, Germany. |
| 2017 | International World Wide Web Conference (WWW), Perth, Australia; speaker Julia Proskurnia. |
| 2016 | Computational Social Science Winter Symposium, Cologne, Germany. |
| 2016 | The International AAAI Conference on Web and Social Media, Cologne, Germany. |
| 2015 | Computational Social Science Winter Symposium, Cologne, Germany. |
| 2015 | International Conference on Computational Social Science (IC2S2), Helsinki, Finland. |
| 2015 | International World Wide Web Conference (WWW), Florence, Italy. |
| 2013 | Data Visualization and Analysis Symposium, Waterloo, Canada. |
| 2013 | The European Conferences on Complex Systems (ECCS), Barcelona, Spain. |
| 2013 | The International School and Conference on Network Science (NetSci), Copenhagen, Denmark. |
| 2013 | XXXIII Sunbelt Social Networks Conference of the INSNA, Hamburg, Germany. |
| 2013 | The ACM International Conference on Web Search and Data Mining (WSDM), Rome, Italy. |
| 2010 | ESF-COST Conference on Future Internet and Society: A Complex Systems Perspective, Acquafredda |
| | di Maratea, Italy. |
| 2010 | SOE sessions of DPG Spring Meeting, Regensburg, Germany. |
| 2009 | PATRES project workshop, Paris, France. |
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COMPUTING AND PROGRAMMING SKILLS

- General-purpose languages: *C/C++*, *Python*
- Computing environments: *R, Mathematica, Matlab*
- Statistical analysis: scipy, numpy, pandas, statsmodels
- Fairness, explainability, causal inference: aif360, fairlearn, tmle, SHAP
- Machine learning and NLP: scikit-learn, spaCy, NLTK, dlib, MALLET, Stanford TMT
- Network analysis: SNAP, igraph
- Distributed computing: Hadoop, Pig Latin
- Plotting tools: matplotlib, gnuplot, Grace
- Shell scripting: bash, awk, sed, jq, vi, tmux, screen, etc.
- Relational detabases: MySQL, PostgreSQL
- Working environments/Operating systems: Linux, Mac OS, Windows, Cygwin