ANAMARIA BEREA, PhD

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Education:

PhD in Computational Social Science, Krasnow Institute for Advanced Study, George Mason University, 2012

PhD in Economics, Academy of Economic Studies, Romania, 2010

M.A. in International Business and Economics, Academy of Economic Studies, Romania**,** 2003

B.A. in International Business and Economics, Academy of Economic Studies, Romania, 2001

Journal Publications

Fath, B. D., Fiscus, D. A., Goerner, S. J., Berea, A., & Ulanowicz, R. E. (2019). Measuring Regenerative Economics: 10 principles and measures undergirding systemic economic health. Global Transitions.

Bell Aaron, Chopra Aditya, Fawcett William, Talebi Rodd, Angerhausen Daniel, Berea Anamaria, Cabrol Nathalie, Kempes Chris, Mascaro Massimo. 2018. "NASA Frontier Development Lab 2018 Using machine learning to study E.T. biospheres", NIPS - CiML 2018

Sean McGregor, Dattaraj Dhuri, Anamaria Berea and Andrés Muñoz-Jaramillo. 2017. "FlareNet: A Deep Learning Framework for Solar Phenomena Prediction", NIPS 2017

Berea, Anamaria. 2017, "Predictive Analytics", Encyclopedia of Big Data, doi:10.1007/978-3-319-32001-4_170-1

Berea, Anamaria. 2016. "Trade As a Premise for Social Complexity", Journal of Washington Academy of Sciences, Vol. 103 – 2, August 2016.

Berea, Anamaria, Rand, William, Wittmer, Kevin and Wall, Gerard, 2015. "Social Media Analysis for Higher Education", Journal of Washington Academy of Sciences, Vol. 101 – 3, Fall 2015.

Berea, Anamaria, Tsvetovat, Maksim, Daun-Barnett, Nathan, Greenwald, Mathew and Cox, Elena, 2015. "A New Multi-Dimensional Conceptualization of Individual Achievement in College", Decision Analytics, ***2****:3, Springer, May 2015.*

Minoiu, Camelia and Kang, Chanhyun and Subrahmanian, V.S. and Berea, Anamaria, Does Financial Connectedness Predict Crises? Quantitative Finance, 15:4, Routledge, March 2015.

Berea, Anamaria, Charles R. Twardy, and Daniel T. Maxwell. "Forecasting the Failed States Index with an Automated Trader in a Combinatorial Market." Journal of Strategic Security 6, no. 3 Suppl. (2013): 38-51.

Berea, Anamaria, Twardy, Charles. 2013. "Automated Trading in Prediction Markets", poster at The 2013 International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction, Washington DC, April 2013.

Berea, Anamaria, Maxwell, Dan and Twardy, Charles, 2012. "Improving Forecast Accuracy Using Bayesian Network Decomposition in Prediction Markets", AAAI Proceedings, Fall 2012 Symposium.

Books

Berea, Anamaria (ed.). "The Technosignatures Field – A Research Companion", Wiley-Scrivener, October 2020.

Berea, Anamaria (ed.). "The Evolution of Communication from Cells to Societies", InTech Open, February 2019.

Berea, Anamaria. "Emergence of Communication in Socio-Biological Networks", Springer, January 2018.

Book Chapters

Berea, Anamaria, "A Bayesian Model for Investment Decisions in Early Ventures" in "Bayesian Inference", InTech Open, 2017.

Berea, Anamaria. forthcoming. "Link Prediction", in "Encyclopedia of Big Data", eds. Laurie A. Schintler and Connie L. McNeely, Springer.

Berea, Anamaria. forthcoming. "R-programming", in "Encyclopedia of Big Data", eds. Laurie A. Schintler and Connie L. McNeely, Springer.

Berea, Anamaria. forthcoming. "Supercomputing, Exascale Computing, High Performance Computing", in "Encyclopedia of Big Data", eds. Laurie A. Schintler and Connie L. McNeely, Springer.

Berea, Anamaria. 2014. "New Lessons from the War in Bosnia – An Analysis Using Computational Methods", in "The Role of Intelligence in Ending the Conflict in Bosnia in 1995", Lexington.

Berea, Anamaria. 2013. "Adaptive Agents in Combinatorial Prediction Markets", in "Handbook of Human Computation", Pietro Michelucci (ed.), Springer, 2013.

White Papers

The Social Sciences Interdisciplinarity for Astronomy and Astrophysics - Lessons from the History of NASA and Related Fields, with Kathryn E. L. Denning, Monica Vidaurri, Kimberly K. Arcand, Michael P. Oman-Reagan, Jillian M. Bellovary, Arsev Umur Aydinoglu, Mark L. Lupisella, arXiv:1907.07800 [astro-ph.IM]

The Network Of the Byzantium after Byzantium Fresco Style in the UNESCO Monasteries of Moldova: The Sistine Chapel of the East (February 26, 2019). Available at SSRN: https://ssrn.com/abstract=3342784 or http://dx.doi.org/10.2139/ssrn.3342784

Searching for Technosignatures: Implications of Detection and Non-Detection, with Jacob Haqq-Misra, Amedeo Balbi and Claudio Grimaldi, arXiv:1903.06550

The Promise of Data Science for the Technosignatures Field, with Daniel Angerhausen and Steve Croft, arXiv:1903.08381

NASA Technosignature 2018 Workshop: Current and Near-term Assets & Projects in the Technosignature Field, with Rana Adhikari (Caltech), Charles Beichman (Caltech), Yan Fernandez (Univ. Central Florida), Daniel Giles (Illinois Institute of

Technology), Joseph Lazio (JPL), Karen O'Neil (Green Bank Observatory), Matthew Pasek (Univ. South Florida), Megan Shabram (NASA), Douglas Vakoch (meti.org), Shelley Wright (Committee Chair, UC San Diego)

Academic Experience:

Associate Term Professor, George Mason University, Computational and Data Sciences, College of Science, January 2020 - present

Research Scientist, Blue Marble Space Institute of Science, June 2019 – present

- Working on problems of economics and astrobiology

Research Assistant Professor, Complex Adaptive Systems Laboratory, University of Central Florida, May 2018 – February 2019

- Scientific lead and coordinator on SocialSim project (DARPA funding) for answering questions regarding information diffusion and social behavior in online settings.
- Mentored graduate student research on Financial services complex networks

AI Mentor, NASA Frontier Development Lab (research accelerator), Summer 2018

- Advised a team of 4 scientists on the use agent-based models and machine learning techniques to conceptualize and answer questions with respect to the co-evolution of biospheres and atmospheres from metabolic networks to green house gases.
- Achievements: Reconceptualization of the big problem of understanding what is possible for life; re-modeled the connection of metabolic networks with planetary temperatures and biomass using third party research in different fields.

Data Scientist, NASA Frontier Development Lab (research accelerator), Summer 2017

- Forecasted solar flares through a mixed methodology of convolutional neural networks and network science
- Achievements: Developed a new algorithm for image processing based on network science and graph theoretic remodeling of magnetospheres.

Professorial Lecturer in Decision Sciences, George Washington University, Spring 2016 – 2017

- Taught MBA Forecasting for Analytics class

Research Associate, Center for Complexity In Business, R.H. Smith School of Business, University of Maryland, June 2014 – June 2016

- PI on the project "**Emergence of Communication in Socio-Biological Networks From Individual Subjective Signals and Responses**" funded by National Academies of Sciences – Keck Futures Initiative
- Research on crowd-funding and social media – the role of Twitter for predicting crowd-funding success
- Research on the diffusion of fashions and cultural fads using analytical and agent-based models
- Teaching Assistant for the Social Venture Consulting MBA class
- Teaching Assistant for the Data Science class
- Mentorship of graduate and undergraduate students
- Fostered partnership between UMD and The Crowdfunding Centre UK for the exchange of Big Data on crowdfunding and Twitter
- Fostered partnership between UMD and vibeffect for education analytics research – using social media data for student thriving in college

Research Fellow – Capital Institute, March 2016 – 2018

- Provided economics expertise and research for "regenerative capitalism" and the future of finance in 21st century

Research Scientist, George Mason University, June 2016 – March 2017

- Provided data science and economics research on a grant from the University of Oxford – Future of Life Institute, on the economics of artificial intelligence

Research Assistant Professor, C4I Center, George Mason University, September 2012 – May 2014

- DAGGRE project - part of the ACE-IARPA competition:
  - Bayesian network modeling and prediction markets for forecasting the Eurozone breakup, Greek Exit and the Failed States Index.
  - Managed and created forecasting problems of geopolitical events for the ACE competition
  - Participated in the inter-team workshop at American University, School of International Service, for the improvement of forecasting geopolitical events
  - Participated in the design and performance analysis of 3 auto-trading algorithm on prediction markets, one of which used streaming Twitter data from Mexico
  - Taught social networks and Bayesian modeling at the workshops for forecasters
- SciCast project – part of the ForeST IARPA program:
  - Leader in two experiments on prediction markets:
    1. regarding the biases affecting the forecasting accuracy in prediction markets: long shot bias, optimism bias.
    2. regarding the performance of the combinatorial prediction market against theoretical models (Bass adoption curves), empirical laws (power laws) and other forecasting systems (TechCast at George Washington University).

Adjunct Professor, Department of Computational Social Science, Krasnow Institute for Advanced Study, George Mason University, Spring 2014

- Graduate level class on Model of Entrepreneurship - in this class, I reviewed the most significant qualitative, quantitative and computational models of entrepreneurship and developed with the students two new significant models, on political entrepreneurship and branding.

Graduate Research Assistant, C4I Center, George Mason University
July 2011 – August 2012

- DAGGRE project – managed the forecasting problems, created forecasting problems and researched network “weak ties” in prediction markets

Young Scholar, Young Scholar Initiative, Institute for New Economic Thinking, 2012

- Selected as one of only 30 Young Scholars from all over the world

Graduate Research Assistant with Krasnow Institute for Advanced Study, Center for Social Complexity, George Mason University
Spring 2009 – May 2011

- ONR project on simulating the Irregular Warfare in the Peshwar area
- Used qualitative and quantitative open source information to construct data sets for network mapping of hawala
- Used Library of Congress unique resources in Pashto for the research paper on stateless tribes and the emergence of law in stateless societies (Pashtunwali).

Lecturer with Full Teaching Responsibilities – Economies in Transition, (ECON 380, Fall 2008 & Spring 2009), George Mason University

- Undergraduate class on comparative economic systems of Russia, Eastern Europe, Mexico, Cuba, China and North Korea

Graduate Research Assistant with GMU Libraries Consortium – Fall 2008

- Developed the Fenwick Library web portal for research in business and economics

Researcher, Center for Complexity Studies, Bucharest, Romania

- Gave talks and presentations to companies on the importance of the interdisciplinarity and complexity science applications to specific cases in business

Industry Research Experience

Principal Data Scientist – KaDSci LLC, June 2019 – January 2020
- IARPA forecasting competition – NLP and forecasting algorithms
- Interns and Business Development for ExoGenius

Data Scientist Manager – Grant Thornton Applied Artificial Intelligence Labs, February 2019 – May 2019
- Managed project submissions and contracts on data science, ML and DL implementations with USPTO and NYU

Data Scientist – ATA, LLC, June 2016 – May 2018
- New methodologies for scalability and accuracy in natural language processing techniques
- Data architecture for developing drone (UAS – unmanned air space) flight regulations
- Adaptable analytics and visualizations analytics for a universal data science toolkit for the FAA
- R-server implementation for safety data and analyses at FAA
- Project leader on data science for the humanities, the literary genome, in collaboration with Folger Shakespeare Library.

Data Science Advisor – vibeffect, June 2014 – May 2018
- As part of the board of advisors, I am advising on the development of models that facilitate college choice for high-school students
- Twitter-based sentiment analysis of students regarding their college choices
- Developed a patent on Identifying opportunities and/or complimentary personal traits.

Principal Scientist – KaDSci, September 2015 – March 2016
- Forecasting and Predictive analytics for Time Inc. People Cover Analysis; performed data analysis on Twitter feeds and past visual factors to build a Bayesian informed engine to forecast sales of People magazine

Data Analyst, Women for Women International, Washington DC – 2008
- Performed data analysis for NGO on helping women in conflict areas around the world

Account Manager, Romania Insight, Bucharest, Romania, 2006 – 2007
- Marketing and Awareness in Europe and US of Romania as a destination country for incentive corporate events
- Performed research on corporate incentives industry
- Helped the first corporate incentives company in Romania grow and become known in the industry abroad

Consultant, Euromonitor - London, UK, 2007
- Performed research on the POS and ATM market in Romania that helped inform international partners estimate their entry strategy on this market

Researcher and Junior Consultant, Antal International, Romania, 2006
- Performed HR market research

Awards and Honors

- 4th Best Team in IARPA Global Forecasting Competition 2019
- Teradata University Network Faculty Award Winner, 2014
- Data Ambassador for DataKind and European Court of Human Rights, 2014
- Phi Beta Delta International Honor Society for scholarly achievement in international education, 2011
- ASSYST bursary for the paper "Network Externalities in Hawala Exchanges" and participation at the SCIVE workshop, 2010
- Special Recommendation from the Head of Counter-Terrorism in India for the research on Hawala
- Richard Seth Staley Educational Foundation scholarship for the Advanced Austrian Economics Seminar, Foundation for Economic Education, 2009
- Earhart Fellow in Economics, 2007-2008
- Calihan Grant from Acton Institute, 2007
- Hayek Fund Scholarship, 2005

Grants

- AI 4 Earth Microsoft grantee for building an Atlas of Communication on Earth
- PI of the project: "Emergence of Communication in Socio-Biological Networks From Individual Subjective Signals and Responses", funded by National Academies Keck *Futures Initiative*

Patent

- Computer Implemented Methods, Systems and Computer Readable Media for Identifying Opportunities and/or Complimentary Personal Traits based on Identified Personal Traits Cross-reference to Related Application, Publication number WO2016094348 A1, Application number PCT/US2015/064390, co-inventor Elena Cox

Invited Talks, Workshops and Conferences

Green Bank Observatory "From Moonshots to EarthShots", July 2019

NASA Goddard Planetary Python Workshops, March 2019

DC DataCon, Washington DC, November 2018

"NASA Technosignatures Workshop", USRA - Houston, September 2018.

NASA Goddard Heliophysics Seminars, November 2018

"An Atlas of Communication Evolution Based on a Unified Database of Evidence", Decoding Alien Intelligence, SETI Institute, March 2018

"Emergence of Communication in Socio-Biological Networks", Duke Forest Conference, Economics in the Era of Natural Computationalism and Big Data, November 2016

"Emergence of Communication in Socio-Biological Networks", Santa Fe Institute, February 2016

NAKFI Conference on "Collective Behavior: From Cells to Societies" – invited as part of Interdisciplinary Research Team 6: *Are there fundamental principles underlying the transition from one to two individuals? Are these scalable to larger social groups?*

"Using the {tm} package in R for text and sentiment analysis", guest lecture in Dr. Dan Carr's class

"Theories and Models for Forecasting Innovation-A Proof of Concept for SciCast Prediction Market", C4I Seminar Series, George Mason University, December 13th, 2013

"The Network Externalities in Hawala Money Transfers", C4I Seminar Series, George Mason University, February 8th, 2013.

"The Social Networks of Informal Value Transfers" at the University of Maryland in prof. Subrahmanian weekly seminar, November 16, 2012

"Dynamic Social Networks" (with Dan Maxwell) at the DAGGRE Participants Workshop, November 10, 2012, Baltimore Maritime Institute

"Z-Shocks or E-shocks? An agent-based model of intergenerational entrepreneurship" (with Petrik Runst) at Stevens Institute of Technology, Department of Mathematics, March 2011

"Networks of Heterogeneous Information Exchange", at Stevens Institute of Technology, Stevens Society of Mathematicians, March 2011

Editorial and Reviewer Experience

Associate Editor - Journal of Human Computation

Paper Reviewer

- Computational & Mathematical Organization Theory journal
- Ecology and Society journal
- 2012 AAAI Fall Symposium on Machine Aggregation of Human Judgment (MAGG)
- Journal of Entrepreneurship and Public Policy
- Journal of Learning Analytics
- Journal of Data and Information Quality

Proposal reviewer

- Institute for New Economic Thinking (INET)
- National Science Foundation (NSF)
- Small Business Administration Office of Advocacy (SBA)
- Halmstad University, Sweden

Conference organizer

- CAPS (Complexity and Policy Studies - Research and Practice for Social Good in a Complex World)
- AbSciCon 2019 for Mathematical and Computational Models for Astrobiology panel and Social Sciences and Astrobiology panel

Teaching Experience

Complexity Explorer MOOC -- Introduction to Agent-based Modeling (Summer 2019), Santa Fe Institute

Forecasting Analytics (Spring 2017), George Washington University School of Business

Complexity Explorer MOOC -- Introduction to Agent-based Modeling (Summer 2016, Summer 2017), Santa Fe Institute (with Bill Rand)

Forecasting Analytics (Spring 2016), George Washington University School of Business

Marketing Research (Fall 2015), Robert H. Smith School of Business, University of Maryland

“Model of Entrepreneurship” (CSS 739, Spring 2014), George Mason University – graduate level

“Economies in Transition and Comparative Economics” (ECON 380, Fall 2008 & Spring 2009), George Mason University – undergraduate level

“Bayesian Networks Decompositions” (with Dan Maxwell) at DAGGRE Semi-Annual Workshop, March 2012, George Mason University

“Dynamic Network Analysis” (with Dan Maxwell) at DAGGRE Semi-Annual Workshop, November 11, 2012, Baltimore Maritime Institute

“Bayesian Networks” (with Dan Maxwell) at DAGGRE Semi-Annual Workshop, March 2, 2013, Los Angeles, CA

“Dynamic Network Analysis” (with Dan Maxwell) at DAGGRE Semi-Annual Workshop, March 2, 2013, Los Angeles, CA

Professional Organizations

- The Center for Complexity Studies – UNESCO Center, Bucharest
- Association for the Advancement of Artificial Intelligence (AAAI)
- International Association for Intelligence Education (IAFIE)
- Phi Beta Delta International Honor Society
- Washington Academy of Science (WAS)
- Eastern Economics Association (EEA)
- American Association for the Advancement of Science (AAAS)
- Association for Women in Science (AWS)
- American Geophysical Union (AGU)

Voluntary and Advisory Experience

- METI International Advisor, 2017 - present
- Arch Mission Foundation Advisor, 2017 - present
- Ronin Institute – Research Scientist, 2016 - present
- TechCast Global Forecasting Expert, 2015
- DataKind at the Teradata Data Dive, 2014
- RAINN - Data Science, 2013

Foreign Languages

English, Romanian, French, Italian (all fluently)

Computer Programming

R, python, UCINET, GeNie, Netica, MASON, UnBBayes, SPSS, ArcGIS, MySQL, NetLogo, JAVA, C++, Julia

Conference Publications and Presentations

Berea, Anamaria, Denning, Kathryn, “Economics and Astrobiology: New Connections”, AbSciCon 2019, Seattle, WA

Berea, Anamaria, Denning, Kathryn, "Figuring out, and figuring in, the human: insights for astrobiology from the social sciences", AbSciCon 2019, Seattle, WA

Berea, Anamaria, Rand, William and Rust, Roland, "The Rise and Fall of Fashion and Fads", Eastern Economics Association Conference, Washington DC, February 2016.

Berea, Anamaria, Goldfarb, Brent, Kirsch, David, Rand, William, 2015. Social Media Drivers & Crowdfunding Success. CrowdBerkley Symposium on Crowdfunding, Fung Institute, Berkley University, September 2015.

Berea, Anamaria, Goldfarb, Brent, Kirsch, David, Rand, William, 2015. Social Media Drivers & Crowdfunding Success. Computational Social Science Summit, Northwestern University, May 2015.

Berea, Anamaria, Rand, William, Rust, Roland, 2014. "The Rise and Fall of Fads and Fashions", 5th Annual Complexity in Business Conference, Center for Complexity in Business at Robert H. Smith School of Business, University of Maryland, November 2014.

Berea, Anamaria, 2014. "The Network Of the "Byzantium after Byzantium" Fresco Style in the UNESCO Monasteries of Moldova" at Arts, Humanities and Complex Networks, UCLA in Berkley, Leonardo e-book series.

Berea, Anamaria. 2012. "Constructive Failure in High-Impact Entrepreneurship", 4th Annual Complexity in Business Conference, Center for Complexity in Business at Robert H. Smith School of Business, University of Maryland, November 2012

Berea, Anamaria, 2012. "Constructive Failure in High-Impact Entrepreneurship: An Agent-Based Model of Team Formation and Coordination", presented at MERC (Mason Entrepreneurship Conference), May 2012

Berea, Anamaria, 2012. Complexity and Economic Systems in Transition. The Case of Entrepreneurship in Romania (with Aurora Murgea), paper presented at the Conference on Developments in Economic Theory and Policy, Bilbao, June 28-29, 2012

Berea, Anamaria, Twardy, Charles and Maxwell, Dan. 2012. "Bayesian Crowds and Prediction Markets – A Match Made in Computational Heaven". Paper presented at The 50th Annual Edwards Bayesian Conference Program, Fullerton, CA.

Berea, Anamaria, 2011. "Semantic Networks with Heterogeneous Information Exchange". Paper presented at Sunbelt XXXI – International Network for Social Network Analysis Conference, St. Pete's Beach, FL.

Berea, Anamaria. 2011."Trade as A Premise for Social Complexity". Paper presented at the Fund for Studies in Spontaneous Order, Portsmouth, NH

Berea, Anamaria and Runst, Petrik. 2011. "Z-shocks or E-shocks? Can Tacit Knowledge explain Temporal Clusters of Innovation?", Paper presented at Mason Entrepreneurship Research Conference, Fairfax, VA.

Berea, Anamaria. 2010. "The Theory of International Economics and The Complexity Science Paradigm: Methodological Implications for Economic Epistemology", Academy of Economic Studies Dissertations, Bucharest, Romania

Berea, Anamaria. 2010. "Network Externalities in Hawala Exchanges". Paper presented at the SCIVE Workshop, European Conference on Complex Systems, Lisbon, Portugal.

Berea, Anamaria. 2010. "Economic Processes and Network Dynamics in the Pashtun Tribes". Paper presented at Eastern Economic Association Conference, Philadelphia, PA.

McMahon, Matt, Berea, Anamaria and Osman, Hoda. 2009. "An Agent Based Model of the Housing Market: HousingMarketRev8.3.nlogo". Paper presented at North American Association for Computational Social and Organization Sciences Conference, Tempe, AZ.

Tsvetovat, Maksim, Cioff-Revilla, Claudio, Geller, Armando and Berea, Anamaria. 2009. "Ecology in Agent Based Modeling of Conflict". Paper presented European Social Simulation Association Conference, Guildford, UK. In The Conference Proceedings of the 6th Conference of the European Social Simulation Association, eds. Bruce Edmonds and Nigel Gilbert, Electronic Proceedings ISBN: 1844690172

Geller, Armando, Tsvetovat, Maksim and Berea, Anamaria. 2009. "On Culturally Contextualized Models of Conflict: An Evidence-Driven Perspective". Paper presented European Social Simulation Association Conference, Guildford, UK. In The Conference Proceedings of the 6th Conference of the European Social Simulation Association, eds. Bruce Edmonds and Nigel Gilbert, Electronic Proceedings ISBN: 1844690172

Geller, Armando, Cioffi-Revilla, Claudio, Tsvetovat, Maksim, Harrison, Joseph, Berea, Anamaria and Osman, Hoda. 2009. "Modeling Kinship Structures in Pakistan's Rural North-West Frontier Province". Paper presented at North American Association for Computational Social and Organization Sciences Conference, Tempe, AZ.

Conference Posters

Berea, Anamaria. 2018. "NASA Frontier Development Lab: Applied Artificial Intelligence for Space Science and Exploration". AGU, Washington DC

Berea, Anamaria, Rand, William, Rust, Roland, 2015. "The Rise and Fall of Fads and Fashions", poster at IC2S2 conference, Helsinki, Finland

Berea, Anamaria, 2014. "Information Diffusion in Socio-Ecological Networks", poster at NAKFI Conference on "Collective Behavior: From Cells to Societies".

Berea, Anamaria, 2012. "Constructive Failure in High-Impact Entrepreneurship: An Agent-Based Model of Team Formation and Coordination", poster presented at Krasnow Retreat, May 2012

Tsvetovat, Maksim, Cioff-Revilla, Claudion, Geller, Armando and Berea, Anamaria. 2009. "Ecology in Agent Based Modeling of Conflict". Poster presented at Human Behavior-Computational Intelligence Modeling Conference at Oak Ridge National Laboratory, Oak Ridge, TN.

Media Coverage

- "The Future of Intelligence Analysis"- research article published by TechCast, 2016
- Blog entries for Future Perfect - Blog for the DAGGRE forecasting team
- Articles for TechCast Global
- Woodrow Wilson Center Commons Lab: "SciCast, Crowdsourcing Science and Technology Forecasting For Policy"
- IBM Big Data Analytics & Hub: "Social Media Analytics – How to Apply Them in Education"
- News At Smith: "Using Big Data to Match Students and Colleges"

- “Intelligent Ways to Search for Extraterrestrials”, The New Yorker, October 3, 2019

Hackathons

- Booz Allen Hamilton – FAA hackathon on airline safety data, May 2017; winner of most creative project
- Berkley/Breakthrough Listen hackathon at Allen Telescope Array, May 2019; applied Bayesian methods and social science data methods to radio astronomy and image processing for astronomical data