

CONTACT INFORMATION	College of Information and Computer Sciences 140 Governors Dr, Amherst, MA, 01003	
RESEARCH INTERESTS	Differential Privacy, Explainable AI, Learning Theory, Causation, Formal Epistemology	
EDUCATION	University of Massachusetts, Amherst, MA Ph.D, Computer Science M.S., Computer Science Advisors: Dan Sheldon & Gerome Miklau	Expected: 2025 2024
	Miami University, Oxford, OH Graduate study in Mathematics Advisor: Paul Larson	2015 to 2017
	Carnegie Mellon University, Pittsburgh, PA Summer School in Logic and Formal Epistemology	2015
	Georgia State University, Atlanta, GA B.S., Economics B.A., Philosophy <i>Summa Cum Laude</i> Thesis: <i>Against Indifference: Popper's Assumption of Distribution Preference</i> Advisor: Yongsheng Xu, Department of Economics	2014 2014
TEACHING	Instructor of Record <i>Finite Mathematical Models</i> (Miami University) <i>Precalculus</i> (Miami University) Teaching Assistant <i>A Mathematical Foundation for Informatics</i> (UMass Amherst) <i>Great Theorems of Mathematics</i> (Miami University)	Spring 2016 Fall 2015, Fall 2016 Fall 2024 Spring 2016
PROFESSIONAL EXPERIENCE	Senior Data Scientist Data, Discovery, and Decision Science, Allstate, Chicago, IL Managed shared economy data science team collaborating with leading companies on joint data science projects, led efforts in auto and property underwriting to develop predictive models from ideation to deployment in production, and supported projects such as building computer vision models for Allstate's QuickFoto Claim product. Affiliate Researcher Fiscal Research Center, Georgia State University, Atlanta, GA Member of a team investigating earnings mobility among low income individuals in Georgia by developing new methods of mobility measurement, writing software for policy analysts, and building econometric models using government administrative data from the Department of Human Services and the Department of Labor. Research Assistant Department of Economics, Georgia State University, Atlanta, GA Advisor: Jim Marton Estimated disenrollment likelihoods and tested for interaction effects given various demographic and health characteristics within Georgia's PeachCare for Kids program.	2/2017 to 7/2020 1/2014 to 10/2021 Summer 2013

CONFERENCE & JOURNAL PUBLICATIONS	<ol style="list-style-type: none"> 10. Brett Mullins, Miguel Fuentes, Yingtai Xiao, Daniel Kifer, Cameron Musco, Daniel Sheldon. “Efficient and Private Marginal Reconstruction with Local Non-negativity” <i>Advances in Neural Information Processing Systems (NeurIPS)</i>, 2024. 9. Miguel Fuentes, Brett Mullins, Ryan McKenna, Daniel Sheldon, Gerome Miklau. “Joint Selection: Adaptively Incorporating Public Information for Private Synthetic Data” <i>AISTATS</i>, 2024. 8. Brett Mullins. “The Shape of Explanations: A Topological Account of Rule-Based Explanations in Machine Learning” <i>AAAI 2023 Workshop on Representation Learning for Responsible Human-Centric AI (R2HCAI)</i>, 2023. 7. Ryan McKenna, Brett Mullins, Daniel Sheldon, Gerome Miklau. “AIM: An Adaptive and Iterative Mechanism for Differentially Private Synthetic Data” <i>Proceedings of the 48th International Conference on Very Large Databases (VLDB)</i>, 2022. 6. Brett Mullins, David Sjoquist, Sally Wallace. “Economic Mobility and the Great Recession” <i>Social Science Quarterly</i>, 2021. 5. Brett Mullins. “Gauthier, Equilibrium, and the Emergence of Morality” <i>Dialogue</i>, vol. 55 (4), 2016. 4. Brett Mullins, Mark Rider, David Sjoquist, Sally Wallace. “Long Run Earnings Mobility among Low Income Individuals” <i>Journal of Economics and Public Finance</i>, vol. 2, 154-170, 2016. 3. Brett Mullins, Mark Rider, David Sjoquist, Sally Wallace. “Trends in TANF and SNAP Participation in Georgia” <i>Andrew Young School of Policy Studies</i>, Fiscal Research Center Report, 2015. 2. Brett Mullins, Mark Rider, David Sjoquist, Sally Wallace. “Helping Hand or Anchor: The Effect of Public Assistance on Income Mobility among the Poor” <i>Proceedings of the National Tax Association’s Annual Conference on Taxation</i>, 2014. 1. Brett Mullins. “Recollection and Second Order Skepticism” <i>Marist Undergraduate Philosophy Journal</i>, 2013. 												
MISC PUBLICATIONS	“Parsing Nested JSON Records in Python” featured in <i>PyCoder’s Weekly</i> , iss. 374, 2019.												
SOFTWARE	“mobilityIndexR: Calculate Transition Matrices and Mobility Indices” with Trevor Harkreader. R package version 0.2.1. Available on CRAN.												
COMPETITIONS, AWARDS, AND HONORS	<table> <tr> <td>NIST Differential Privacy Challenge, 1st Place</td> <td>2021</td> </tr> <tr> <td>Top Three Presentation Award, MU Graduate Forum</td> <td>2015</td> </tr> <tr> <td>Graduate Student Paper Award, Indiana Philosophical Association</td> <td>2014</td> </tr> <tr> <td>Phi Sigma Tau Scholar Travel Stipend</td> <td>3/2014, 9/2014</td> </tr> <tr> <td>George W. Beiswanger Award: Outstanding Student in Philosophy, Department of Philosophy, Georgia State University</td> <td>2014</td> </tr> <tr> <td>Socrates Award: Outstanding Student in Philosophy, Department of History & Philosophy, University of North Georgia</td> <td>2012</td> </tr> </table>	NIST Differential Privacy Challenge, 1st Place	2021	Top Three Presentation Award , MU Graduate Forum	2015	Graduate Student Paper Award , Indiana Philosophical Association	2014	Phi Sigma Tau Scholar Travel Stipend	3/2014, 9/2014	George W. Beiswanger Award: Outstanding Student in Philosophy , Department of Philosophy, Georgia State University	2014	Socrates Award: Outstanding Student in Philosophy , Department of History & Philosophy, University of North Georgia	2012
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TOOLS & LANGUAGES	R, Python, L ^A T _E X, Groovy, SAS, reveal.js, Elastic Stack, Keras, Tensorflow, Agile/Scrum, German (<i>Elementary</i>)												

PROFESSIONAL MEMBERSHIPS	American Economic Association Society for Exact Philosophy
TALKS & PRESENTATIONS	<p>NeurIPS (Poster), Dec 2024 <i>Efficient and Private Marginal Reconstruction with Local Non-negativity</i></p> <p>Miami University Mathematics Colloquium (Invited), Nov 2024 <i>Efficient and Private Marginal Reconstruction</i></p> <p>TPDP (Poster), Aug 2024 <i>Efficient and Private Marginal Reconstruction with Local Non-negativity</i></p> <p>UMass CICS Theory Seminar, Oct 2023 <i>Efficient Error Bounds for Private Linear Query Release</i></p> <p>UMass Learning Learning Seminar (Invited), Oct 2023 <i>Introduction to Differential Privacy and Synthetic Data</i></p> <p>TPDP (Poster), Sept 2023 <i>Quantifying Uncertainty of Unsupported Linear Queries for Private Query Release</i></p> <p>R2HCAI: The AAAI 2023 Workshop on Representation Learning for Responsible Human-Centric AI (Poster), Feb 2023 <i>The Shape of Explanations: A Topological Account of Rule-Based Explanations in Machine Learning</i></p> <p>UMass CICS Theory Seminar, Nov 2021 <i>The Shape of Explanations: A Topological Account of Rule-Based Explanations in Machine Learning</i></p> <p>Society for Exact Philosophy Annual Meeting, May 2019 <i>Infinite Cycles and the Graphical Approach to Epistemic Justification</i></p> <p>Next Generation of Public Finance Conference, May 2016 <i>Measuring the Impact of Social Programs on Income Mobility Using Big Data</i></p> <p>Indiana Philosophical Association Fall Meeting, Nov 2015 <i>Non-Arbitrary Inference: An Objection to Strong Bayesianism</i></p> <p>Miami University Graduate Research Forum, October 2015 <i>Mathematics Preparation & Intermediate Economics</i> Top Presentation Award</p> <p>Missouri Valley Economic Association Annual Meeting, October 2015 <i>Total Earnings Mobility among Public Assistance Recipients in Georgia</i></p> <p>Formal Ethics 2015, July 2015 <i>On Probability Assessment in the Original Position</i></p> <p>Missouri Valley Economic Association Annual Meeting, October 2014 <i>The Effect of Mathematics Courses on Outcomes in Undergraduate Intermediate Economics: New Evidence</i></p> <p>Indiana Philosophical Association Fall Meeting, October 2014 The Inconsistency of Gauthier's Market Contractarianism Graduate Student Paper Award</p> <p>The Pittsburgh Area Philosophy Colloquium, September 2014 <i>On Probability Assessment in the Original Position</i></p>

The Prindle Institute's Undergraduate Ethics Symposium, April 2014
The Moral Ambiguity of Externalities in Market Contractarianism

Classic City Undergraduate Philosophy Conference, April 2014
Against Indifference: Popper's Assumption of Distribution Preference

Georgia Philosophical Society's Fall Meeting, November 2013
Against Indifference: Popper's Assumption of Distribution Preference

Appalachian Regional Student Philosophy Colloquium, April 2013
An Analysis of Infinitism as Justification