

1 Oxford Street, #316
Cambridge, MA

weiweipan@g.harvard.edu ✉

RESEARCH INTERESTS

Uncertainty quantification; Deep Bayesian models; Approximate inference; Interpretable machine learning

Appointments

2017-Present *Research Associate*, **Institute of Applied Computational Sciences**, Harvard University, Cambridge, MA

2017-2020 *Postdoctoral Fellow*, **Institute of Applied Computational Sciences**, Harvard University, Cambridge, MA

2016-2017 *Preceptor*, **Institute of Applied Computational Sciences**, Harvard University, Cambridge, MA

2010-2012: *Dorothea Schlözer Postdoctoral Fellow*, **Courant Research Centre “Higher Order Structures”**, Georg-August-Universität Göttingen, Germany

2009-2015: *Assistant Professor*, **Saint Mary’s College of California**, Moraga, CA

EDUCATION

M.S. in Computational Science & Engineering, May 2017
Harvard University

Ph.D. in Mathematics, May 2009
Wesleyan University
Advisor: Mark Hovey

B.S. in Mathematics, May 2001
Mary Baldwin College
Program for the Exceptionally Gifted (PEG)

RECENT PUBLICATIONS

Efficient Online Inference for Nonparametric Latent Variable Time Series, (R. Schaeffer, B. Bordelon, M. Khona, I. Fiete), Conference on Uncertainty in Artificial Intelligence (UAI). 2021.

BaCOUn: Bayesian Classifier with OOD Uncertainty, (T. Guénais, D. Vamvourellis, Y. Yacoby, F. Doshi-Velez), International Conference on Machine Learning: Workshop on Uncertainty & Robustness in Deep Learning (ICML). 2020.

Learned Uncertainty-Aware (LUNA) Bases for Bayesian Regression using Multi-Headed Auxiliary Networks, (S. Thakur, C. Lorusung, Y. Yacoby, F. Doshi-Velez), International Conference on Machine Learning: Workshop on Uncertainty & Robustness in Deep Learning (ICML). 2020.

CRUDS: Counterfactual Recourse Using Disentangled Subspaces, (with M. Downs, J. Chu, Y. Yacoby, F. Doshi-Velez), International Conference on Machine Learning: Workshop on Interpretability in Machine Learning (ICML). 2020.

Failure Modes of Variational Autoencoders and Their Effects on Downstream Tasks, (with Y. Yacoby, F. Doshi-Velez), International Conference on Machine Learning: Workshop on Uncertainty & Robustness in Deep Learning (ICML). 2020.

Amortised Variational Inference for Hierarchical Mixture Models, (with J. Antorán, J. Yao, F. Doshi-Velez, J. Hernández-Lobato), International Conference on Machine Learning: Workshop on Uncertainty & Robustness in Deep Learning (ICML). 2020.

Power-Constrained Bandits, (with J. Yao, E. Brunskill, S. Murphy, F. Doshi-Velez), International Conference on Machine Learning: Foundations of RL Workshop (ICML). 2020.

GRANTS

- ⊕ Sencer Grant - ISE, PI (with Steve Bachofer and Alice Baldrige), 2013-2014. For the creation and implementation of a service learning programming course, centered around the design and development of a mobile app for a non-profit community partner.
- ⊕ MAA Dolciani Mathematics Enrichment Grant, PI (with Chris Jones), 2010-2011. For the creation of *(SMC)² - Saint Mary's College of California Summer Math Camp*, a residential educational enrichment program for mathematically gifted and educationally disadvantaged high school students.
- ⊕ Project NExT Section Startup Funds, PI (with Maia Averett, Ralucca Gera, Cornelia Van Cott), 2009-2012. For the creation of a region chapter of the national Project NExT organization for the professional advancement and enrichment of mathematicians working in academia.

TEACHING

- ⊕ 2016-Present: **Harvard University**, Cambridge, MA
 - ⊗ Courses taught:
Introduction to Data Science, Advanced Stochastic Optimization, Diversity, Inclusion and Leadership in Tech, Undergraduate Research in Machine Learning, Graduate Research in Machine Learning
- ⊕ 2019-2020: **University of Rwanda**, Kigali, Rwanda
 - ⊗ Courses taught:
Machine Learning and Computational Statistics
- ⊕ 2011-2012: **Georg-August-Universität Göttingen**, Germany
 - ⊗ Courses taught: *Categorified Quantum Groups and Applications*
- ⊕ 2009-2015: **Saint Mary's College of California**, Moraga, CA
 - ⊗ Math Courses taught:
Fundamental Math Concepts I; Finite Mathematics; The Art & Practice of Math; Game Theory, Voting Theory & Apportionment; Calculus with Elementary Functions I & II; Calculus I & II; Calculus II with Applications; Mathematical Modeling; Linear Algebra; Topology; Abstract Algebra I & II; Category Theory
 - ⊗ CS Courses taught:
Introduction to Programming (Python); Design and Development for iOS; Introduction to Algorithms; Functional Programming in Swift; Theory of Computation & Formal Languages
- ⊕ 2003-2009: **Wesleyan University**, Middletown, CT
 - ⊗ Courses taught:
Introduction to Calculus I & II, Graduate Pedagogy

OUTREACH & SERVICE

- ⊕ Co-Chair of the International Stanford Women in Data Science Datathon Challenge, 2021- Present
- ⊕ Organizer of the IACS Winter Data Science Pedagogy Workshop, 2021
- ⊕ Faculty advisor of the IACS Graduate Student Advisory Committee, 2020 - Present
- ⊕ Committee Member of the International Stanford Women in Data Science Datathon Challenge, 2020
- ⊕ Organizer of the Women in Data Science Datathon Workshop, Microsoft NERD, 2017, 2018, 2019, 2020
- ⊕ Project Mentor for the Team Research in Computational and Applied Mathematics (TRiCAM) REU program, Harvard University, 2016, 2017, 2018
- ⊕ Principle Investigator (with Steve Bachofer and Alice Baldrige) of a *Sencer Grant - ISE* supporting the development of educational mobile apps for local non-profit organizations dedicated to informal science education, 2013 - 2015
- ⊕ Workshop organizer (with Maia Averett and Ellen Veomett) for the *Expand Your Horizons* STEM outreach program for middle-school girls, 2010, 2013.
- ⊕ Director (with Chris Jones) of *(SMC)² - Saint Mary's College of California Summer Math Camp* for mathematically gifted and educationally disadvantaged high school students, 2010 - 2014
- ⊕ Member of the *AWM Meetings and Programs Committee*, 2010 - 2011