

Gavin Kerrigan

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Education

Ph.D., Computer Science	2019 - Present
University of California, Irvine	GPA: 4.0/4.0
Advisor: Padhraic Smyth	
B.Sc., Mathematics	2015 - 2019
The Pennsylvania State University, Schreyer Honors College	GPA: 3.98/4.0
Thesis: Estimating Noisy Histograms with Quality Guarantees	
Minor: Physics	

Research

Graduate Student Researcher	Sep. 2019 - Present
University of California, Irvine, Department of Computer Science	
Research Assistant	Sep. 2018 - June 2019
The Pennsylvania State University, Department of Computer Science	

Teaching

Instructor	March 2023 - June 2023
CS 178: Machine Learning and Data Mining, UC Irvine	
■ Enrollment: 162	
Head Teaching Assistant	Sep. 2022 - Dec. 2022
CS 178: Machine Learning and Data Mining, UC Irvine	
■ Managed a team of 5 graduate TAs in a course with an enrollment of 272	
■ Developed homework assignments, weekly discussions, exams, and rubrics	
Guest Lecturer	
CS 274E: Deep Generative Models, UC Irvine	Nov. 2022, Nov. 2023
Private Tutor	Jul. 2019 - Present
Machine learning, mathematics, and statistics	
■ Perfect (5.0/5.0) rating across more than 300 hours of tutoring and 200 reviews	
■ Supervised research projects ranging from the high school level to the Ph.D. level	
Mathematics Tutor and Peer Coordinator	Jan. 2017 - June 2019
Penn State Learning	
■ Tutored undergraduate mathematics courses in one-on-one and small group settings	
■ Trained, supervised, and interviewed a team of more than 60 undergraduate tutors	

Publications

* denotes joint authorship

Conference

1. **G. Kerrigan**, G. Migliorini, P. Smyth, 'Functional Flow Matching,' *Proceedings of the 27th International Conference on AI and Statistics (AISTATS)*, Proceedings of Machine Learning Research, PMLR 238:3934-3942, April 2024 ([Oral, Outstanding Student Paper Highlight \(7/1802\)](#)).
2. **G. Kerrigan**, J. Ley, P. Smyth, 'Diffusion Generative Models in Infinite Dimensions,' *Proceedings of the 26th International Conference on AI and Statistics (AISTATS)*, Proceedings of Machine Learning Research, PMLR 206:9538-9563, April 2023.
3. **G. Kerrigan**, P. Smyth, and M. Steyvers, 'Combining Human Predictions with Model Probabilities via Confusion Matrices and Calibration,' *Advances in Neural Information Processing Systems 34 (NeurIPS 2021)*, pp.4421-4434, 2021.

Journal

4. M. Steyvers, H. Tejada, **G. Kerrigan**, P. Smyth, 'Bayesian Modeling of Human-AI Complementarity,' *Proceedings of the National Academy of Sciences*, 19(11):1-7, March 2022.

Workshop

5. **G. Kerrigan***, D. Slack*, J. Tuyls*, 'Differentially Private Language Models Benefit from Public Pre-Training,' *PrivateNLP: EMNLP Workshop on Privacy and Natural Language Processing*, pp.39-45, 2020.
6. **G. Kerrigan**, G. Migliorini, P. Smyth, 'Functional Flow Matching,' *NeurIPS Workshop on Diffusion Models*, 2023.

Under Review

7. **G. Kerrigan**, G. Migliorini, P. Smyth, 'Dynamic Conditional Optimal Transport through Simulation-Free Flows,' *Under review*, arXiv:2404.04240, April 2024.
8. P. Srivastava, R. Yang, **G. Kerrigan**, G. Dresdner, J. McGibbon, C. Bretherton, S. Mandt, 'Precipitation Downscaling with Spatiotemporal Video Diffusion,' *Under review*, arXiv:2312.06071, December 2023.

Honors and Awards

University of California, Irvine

Hasso Plattner Institute Fellowship	2021 - 2024
Graduate Dean's Recruitment Fellowship	2019

The Pennsylvania State University

Steven and Sherry McCrystal Mathematics Award	2019
Mary Lister McCammon Scholarship	2017, 2018

Phi Beta Kappa Honors Society	2017
Hay Memorial Scholarship	2016
Mahle Trustee Scholarship in Science	2015

Invited Talks

Diffusion Generative Models: Methods and Applications

NASA Jet Propulsion Laboratory (JPL)	June 2024
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Functional Flow Matching

The 27th International Conference on AI and Statistics (AISTATS)	May 2024
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Deep Generative Models in Infinite-Dimensional Spaces

Center for Machine Learning Seminar, UC Irvine	Jan. 2024
Probability and Combinatorics Seminar, UC Irvine	Nov. 2023
AMLab Seminar, University of Amsterdam	Nov. 2023

A Tutorial on Diffusion Generative Models

Hasso Plattner Institute	Sep. 2023
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Service

Student Success Mentor

The Mentor Collective, UC Irvine Next Gen Pathways	2024
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Workflow Chair

The 27th International Conference on AI and Statistics (AISTATS)	2024
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Session Chair

The 27th International Conference on AI and Statistics (AISTATS)	2024
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AI Faculty Search Committee, Student Member

UC Irvine	2021 - 2023
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Academic Reviewing

JMLR, ICLR, CVPR, ICML, UAI, AAI	2024
NeurIPS, AISTATS, Workshop on Deep Generative Models for Health,	2023
Workshop on Topology, Algebra, and Geometry in Data Science,	
Workshop on Diffusion Models	
ICML, Workshop on Geometrical and Topological Representation Learning,	2022
Workshop on Human-Machine Collaboration and Teaming	
Workshop on Uncertainty in Deep Learning	2020