Jinlin Lai

MS/PhD Student · Manning College of Information and Computer Sciences

University of Massachusetts Amherst, 140 Governors Dr., Amherst, MA 01002

jinlinlai@cs.umass.edu | lll6924.github.io | https://www.linkedin.com/in/jinlin-lai/

Education

University of Massachusetts Amherst *Amherst, MA, United States*

PhD in Computer Science *Aug 2020 - Sept 2026 (expected)*

- Advisor: Dr. Daniel R. Sheldon
- Area: Bayesian inference, probabilistic programming and generative modeling

University of Massachusetts Amherst *Amherst, MA, United States*

MS in Computer Science *Aug 2020 - Feb 2024*

- GPA: 3.97/4.0
- Courses (PhD level):
  - CS: Machine Learning, Optimization in Computer Science, Probabilistic Graphical Models, Advanced Algorithms, Compiler Techniques, Advanced Natural Language Processing
  - Math: Real Analysis I, Numerical Analysis I

Tsinghua University *Beijing, China*

B.Eng. of Computer Science and Technology *Aug 2016 - June 2020*

- Minors in Finance and Entrepreneurship
- Undergrad research advisors: Dr. Dan Pei, Dr. Jiaxing Song
- GPA: 3.67/4.0
- Selected Courses: Experiments in Mathematics, Fundamentals of Search Engine Technology, Game Theory, Introduction to Principles of Communications, Stochastic Mathematical Methods, Theory and Methods for Statistical Inference

Work Experience

Flatiron Institute, Simons Foundation *New York, NY*

Summer Pre-Doctoral Researcher *May 2024 - August 2024*

- Hosted by Dr. Yuling Yao.
- Research in statistical methods for simulators, with applications to biological and cosmological problems.

Dolby Laboratories Inc. *Sunnyvale, CA*

ATG Imaging Research Intern *June 2023 - August 2023*

- Hosted by Dr. Anustup Choudhury and Dr. Guan-Ming Su.
- Research in generative models and neural rendering.

Publications

Conference

Jinlin Lai, Anustup Choudhury, Guan-Ming Su. (2024). Outdoor Scene Relighting with Diffusion Models. In *Proceedings of the 27th International Conference on Pattern Recognition* (ICPR), Kolkata, India. (to appear)

Jinlin Lai, Javier Burroni, Hui Guan, Daniel Sheldon. (2023). Automatically Marginalized MCMC in Probabilistic Programming. In *Proceedings of the 40th International Conference on Machine Learning* (ICML), Honolulu, Hawaii, USA. PMLR 202, 2023. [link]

Jinlin Lai, Justin Domke, Daniel Sheldon. (2022). Variational Marginal Particle Filters. In *Proceedings of the 25th International Conference on Artificial Intelligence and Statistics* (AISTATS) 2022, Valencia, Spain. PMLR: Volume 151. [link]

Haowen Xu, Wenxiao Chen, **Jinlin Lai**, Zhihan Li, Youjian Zhao, Dan Pei. 2020. Shallow VAEs with RealNVP Prior can Perform as Well as Deep Hierarchical VAEs. ICONIP.

Workshop

Jinlin Lai, Daniel Sheldon. 2022. Automatic Inference with Pseudo-Marginal Hamiltonian Monte Carlo. ICML workshop Beyond Bayes: Paths Towards Universal Reasoning Systems.

Jinlin Lai, Lixin Zou, Jiaxing Song. 2020. Optimal Mixture Weights for Off-Policy Evaluation with Multiple Behavior Policies. Offline Reinforcement Learning Workshop at Neural Information Processing Systems.

Services

Served as a reviewer for

- ICML 2022
- AISTATS 2023, 2024
- AABI 2023, 2024
- NeurIPS 2024

Talks

Jinlin Lai. 2023. Automatically Marginalized MCMC in Probabilistic Programming. Contributed talk in *the 5th Symposium on Advances in Approximate Bayesian Inference*.

Skills

Programming: Python, C/C++, LaTeX, Tensorflow, Tensorflow-Probability, JAX, NumPyro, PyTorch

Language: Chinese (Native), English (Professional), Japanese (Elementary)

Honors, & Awards

2017	**Academic Excellence Scholarship**, Tsinghua University	*CNY 5,000*
2016	**Second Prize, Freshman Scholarship**, Tsinghua University	*CNY 20,000*
2015	**Gold Medal, National Olympiad in Informatics**, China **Gold Medal, Asia and Pacific Informatics Olympiad**, China	

Teaching Experience

Fall 2024	**Advanced Algorithms**, Teaching Assistant	*University of Massachusetts Amherst*
Spring 2024	**Probabilistic Graphical Models**, Teaching Assistant	*University of Massachusetts Amherst*
Spring 2023	**Probabilistic Graphical Models**, Teaching Assistant	*University of Massachusetts Amherst*
Spring 2022	**Probabilistic Graphical Models**, Teaching Assistant	*University of Massachusetts Amherst*
Summer 2019	**Algorithms for High School Olympics**, Lecturer	*Nanchang, Jiangxi Province*
Summer 2018	**Algorithms for High School Olympics**, Lecturer	*Ganzhou, Jiangxi Province*
Summer 2017	**Algorithms for High School Olympics**, Lecturer	*Ganzhou, Jiangxi Province*
2015-2016	**Algorithms for High School Olympics**, Teaching Assistant	*Ganzhou, Jiangxi Province*