Jinlin Lai

MS/PHD STUDENT · MANNING COLLEGE OF INFORMATION AND COMPUTER SCIENCES

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

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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, Daniel Sheldon, Justin Domke. (2024). Hamiltonian Monte Carlo Inference of Marginalized Linear Mixed-Effects Models. NeurIPS 2024, the Thirty-Eighth Annual Conference on Neural Information Processing Systems. (to appear)

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.

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*