

Lantao Yu

Ph.D. in Computer Science – Stanford University – California, USA

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Education

Stanford University

Stanford, USA

Sep. 2018–Now

- Ph.D. Student, Department of Computer Science
- Advisor: Prof. Stefano Ermon

Shanghai Jiao Tong University

Shanghai, China

Sep. 2014–Jun. 2018

- B.Eng. in Computer Science and Technology
- Advisors: Prof. Weinan Zhang, Prof. Yong Yu and Prof. Jun Wang (University College London)

Research Interests

My research interests lie in the general area of machine learning, particularly in deep learning, reinforcement learning and probabilistic graphical models, as well as their applications in sequential decision making, generative modeling, multi-task and meta-learning, and multi-agent systems.

Honors and Awards

- **Best Paper Award Honorable Mention** ([🔗 Link](#)), SIGIR 2017.
- **School of Engineering Fellowship** (USD \$70,000), Stanford University. 2018
- **IEEE Special Scholarship** (RMB ¥100,000) (Top 2 students in School of Electronic Information and Electrical Engineering), Shanghai Jiao Tong University. 2017
- **National Scholarship** (Top 3 students in CS Department), Ministry of Education of P.R.China. 2016.
- **Excellent Bachelor Thesis** ([🔗 Link](#)) (Top 1%), “Adversarial and Cooperative Methods for Neural Text Generation”, Shanghai Jiao Tong University. 2018
- **Scholarship of Excellent Undergraduates** (Top 2 students in School of Electronic Information and Electrical Engineering), Shanghai Jiao Tong University. 2017
- **Zhiyuan Honor Degree of B.Sc in Computer Science and Technology** ([🔗 Link](#)), Shanghai Jiao Tong University. 2018
- **Zhiyuan College Honors Scholarship** (Top 5%), Shanghai Jiao Tong University. 2015 & 2016.
- **Yuan-Ze Scholarship** (Top 2% in Computer Science Department), Zhiyuan College. 2015.
- **First Prize** in China Undergraduate Mathematical Contest in Modeling, Shanghai Division. 2015.

Publications ([🔗 Google Scholar Profile](#))

Autoregressive Score Matching

- Chenlin Meng, **Lantao Yu**, Yang Song, Jiaming Song, and Stefano Ermon.
- In *Proceedings of the 34th Conference on Neural Information Processing Systems*. **NeurIPS 2020**.

MOPO: Model-based Offline Policy Optimization

- Tianhe Yu, Garrett Thomas, **Lantao Yu**, Stefano Ermon, James Zou, Sergey Levine, Chelsea Finn, Tengyu Ma.
- In *Proceedings of the 34th Conference on Neural Information Processing Systems*. **NeurIPS 2020**.

Training Deep Energy-Based Models with f -Divergence Minimization

- **Lantao Yu**, Yang Song, Jiaming Song, Stefano Ermon.
- In *Proceedings of the 37th International Conference on Machine Learning*. **ICML 2020**.

Improving Domain Adaptation with Variational Information Bottleneck

- Yuxuan Song, **Lantao Yu**, Zhangjie Cao, Zhiming Zhou, Jian Shen, Shuo Shao, Weinan Zhang, Yong Yu.
- In *Proceedings of the 24th European Conference on Artificial Intelligence*. **ECAI 2020**.

Improving Maximum Likelihood Training for Text Generation with Density Ratio Estimation

- Yuxuan Song, Ning Miao, Hao Zhou, **Lantao Yu**, Mingxuan Wang, Lei Li.
- In *Proceedings of the 23rd International Conference on Artificial Intelligence and Statistics*. **AISTATS 2020**.

Infomax Neural Joint Source-Channel Coding via Adversarial Bit Flip

- Yuxuan Song, Minkai Xu, **Lantao Yu**, Hao Zhou, Shuo Shao, Yong Yu.
- In *Proceedings of the 34th AAAI Conference on Artificial Intelligence*. **AAAI 2020**.

Meta-Inverse Reinforcement Learning with Probabilistic Context Variables

- **Lantao Yu***, Tianhe Yu* (equal contribution), Chelsea Finn, Stefano Ermon.
- In *Proceedings of the 33rd Conference on Neural Information Processing Systems*. **NeurIPS 2019**.

Multi-Agent Adversarial Inverse Reinforcement Learning

- **Lantao Yu**, Jiaming Song, Stefano Ermon.
- In *Proceedings of the 36th International Conference on Machine Learning*. **ICML 2019**. **(Long Oral)**

CoT: Cooperative Training for Generative Modeling

- Sidi Lu, **Lantao Yu**, Siyuan Feng, Yaoming Zhu, Weinan Zhang, Yong Yu.
- In *Proceedings of the 36th International Conference on Machine Learning*. **ICML 2019**.

Lipschitz Generative Adversarial Nets

- Zhiming Zhou, Jiadong Liang, Yuxuan Song, **Lantao Yu**, Hongwei Wang, Weinan Zhang, Yong Yu, Zhihua
- In *Proceedings of the 36th International Conference on Machine Learning*. **ICML 2019**.

Deep Reinforcement Learning for Green Security Games with Real-Time Information

- Yufei Wang, Zheyuan Ryan Shi, **Lantao Yu**, Yi Wu, Rohit Singh, Lucas Joppa, Fei Fang.
- In *Proceedings of the 33rd AAAI Conference on Artificial Intelligence*. **AAAI 2019**.

Deep Reinforcement Learning for Green Security Game with Online Information

- **Lantao Yu**, Yi Wu, Rohit Singh, Lucas Joppa and Fei Fang.
- In *Workshop on Artificial Intelligence for Imperfect-Information Games at AAAI 2018*.

An Empirical Study of AI Population Dynamics with Million-agent Reinforcement Learning

- Yaodong Yang*, **Lantao Yu***, Yiwei Bai* (equal contribution), Jun Wang, Weinan Zhang, Ying Wen, Yong Yu.
- In *Proceedings of the 17th International Conference on Autonomous Agents and Multi-Agent Systems*. **AAMAS 2018**.

Exploiting Real-World Data and Human Knowledge for Predicting Wildlife Poaching

- Swaminathan Gurumurthy, **Lantao Yu**, Chenyan Zhang, Yongchao Jin, Weiping Li, Xiaodong Zhang, Fei Fang.
- In *Proceedings of the ACM SIGCAS Conference on Computing and Sustainable Societies*. **COMPASS 2018**.
- Abridged in *AI for Social Good Workshop at NeurIPS 2018*.

IRGAN: A Minimax Game for Unifying Generative and Discriminative Information Retrieval Models

- Jun Wang, **Lantao Yu**, Weinan Zhang, Yu Gong, Yinghui Xu, Benyou Wang, Peng Zhang, Dell Zhang.
- In *Proceedings of the 40th International ACM SIGIR Conference on Research and Development in Information Retrieval*. **SIGIR 2017**. **(Best Paper Award Honorable Mention)**

A Dynamic Attention Deep Model for Article Recommendation by Learning Human Editors' Demonstration

- Xuejian Wang*, **Lantao Yu*** (equal contribution), Kan Ren, Guanyu Tao, Weinan Zhang, Yong Yu, Jun Wang.
- In *Proceedings of the 23rd SIGKDD Conference on Knowledge Discovery and Data Mining*. **KDD 2017**.

SeqGAN: Sequence Generative Adversarial Nets with Policy Gradient

- **Lantao Yu**, Weinan Zhang, Jun Wang, Yong Yu.
- In *Proceedings of the 31st AAAI Conference on Artificial Intelligence*. **AAAI 2017**.

Manuscripts

Training Energy-Based Models by Minimizing Pseudo-Spherical Contrastive Divergence

- Lantao Yu, Yang Song, Jiaming Song, Stefano Ermon. Under review.

Multi-Agent Imitation Learning with Copulas

- Hongwei Wang*, Lantao Yu* (equal contribution), Zhangjie Cao, Stefano Ermon. Under review.

Understanding Self-supervised Learning with Dual Deep Networks

- Yuandong Tian, Lantao Yu, Xinlei Chen, Surya Ganguli. Under review.

Internship

Facebook AI Research (FAIR)

Menlo Park, USA

Jun. 2020-Sep. 2020

- Research Intern
- Research on Theoretical Understanding of Self-Supervised Learning
- Mentor: Dr. Yuandong Tian

Carnegie Mellon University

Pittsburgh, USA

Aug. 2017-Feb. 2018

- Research Intern, Institute for Software Research, School of Computer Science
- Research on Multi-Agent Machine Learning and Computational Sustainability
- Advisor: Prof. Fei Fang

Academic Services

- Conference Reviewer: AAAI 2019, AAAI 2020, ICML 2020 (top reviewer award), NeurIPS 2020, AAAI 2021, ICLR 2021, AISTATS 2021.
- Journal Reviewer: Journal of Artificial Intelligence Research (JAIR).