Jiaming Song

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Education

2016 – **Stanford University,** Palo Alto, CA.
Ph.D. Program in Computer Science. Advisor: Stefano Ermon.

2012 – 2016 **Tsinghua University (THU),** Beijing, China.
B.Eng. in Computer Science and Technology. Graduated with Outstanding Honor (Top 1%).

Publications

December 2018 **Multi-Agent Generative Adversarial Imitation Learning**
Jiaming Song, Hongyu Ren, Dorsa Sadigh, and Stefano Ermon.
To appear in *the 31th Neural Information Processing Systems (NIPS 2018)*.

December 2018 **Bias and Generalization in Deep Generative Models: An Empirical Study**
Shengjia Zhao, Hongyu Ren, Arianna Yuan, Jiaming Song, Noah Goodman and Stefano Ermon.
To appear in *the 31th Neural Information Processing Systems (NIPS 2018)*. Spotlight presentation.

July 2018 **Accelerating Natural Gradient with Higher-Order Invariance**
Yang Song, Jiaming Song and Stefano Ermon.
In *the 35th International Conference on Machine Learning (ICML 2018)*.

August 2018 **A Lagrangian Perspective on Latent Variable Generative Models**
Shengjia Zhao, Jiaming Song and Stefano Ermon.
In *2018 Conference on Uncertainty in Artificial Intelligence (UAI 2018)*. Oral presentation.

July 2018 **Adversarial Constraint Learning for Structured Prediction**
Hongyu Ren, Russell Stweart, Jiaming Song, Volodymyr Kuleshov, and Stefano Ermon.
To appear in *2018 International Joint Conference on Artificial Intelligence (IJCAI 2018)*.
Abridged version in *NIPS Workshop on Learning with Limited Data*.

December 2017 **A-NICE-MC: Adversarial Training for MCMC**
Jiaming Song, Shengjia Zhao and Stefano Ermon.
In *the 30th Neural Information Processing Systems (NIPS 2017)*.
Abridged version in *ICML 2017 Workshop on Implicit Models*.

December 2017 **InfoGAIL: Interpretable Imitation Learning from Visual Demonstrations**
Yunzhu Li, Jiaming Song and Stefano Ermon.
To appear in *the 30th Neural Information Processing Systems (NIPS 2017)*.

August 2017 **Learning Hierarchical Features from Generative Models**
Shengjia Zhao, Jiaming Song and Stefano Ermon.
In *the 34th International Conference on Machine Learning (ICML 2017)*.

June 2016 **Factored Temporal Sigmoid Belief Networks for Sequence Learning**
Jiaming Song, Zhe Gan and Lawrence Carin.
In *the 33rd International Conference on Machine Learning (ICML 2016)*.

Feburary 2016 **Discriminative Nonparametric Latent Feature Relational Models with Data Augmentation**
Bei Chen, Ning Chen, Jun Zhu, Jiaming Song and Bo Zhang.
In *the 30th Association for the Advancement of Artificial Intelligence (AAAI 2016) Conference*.

September 2015 · **Organizational Churn: A Roll of the Dice?**
Canyao Liu*, Jiaming Song* and Chuan Yu*.
In *Undergraduate Mathematics and Its Applications*, Journal Issue 36.2. Corresponding author.

Workshop Papers and Manuscripts

October 2018 · **A Lagrangian Perspective on Latent Variable Generative Modeling**
Shengjia Zhao, Jiaming Song and Stefano Ermon.
In *NIPS 2017 Workshop on Bayesian Deep Learning, ICML 2018 Workshop on Theory and Applications for Deep Generative Models*, and *Bay Area Machine Learning Symposium 2018*.

July 2018 · **InfoVAE: Information Maximizing Variational Autoencoders**
Shengjia Zhao, Jiaming Song and Stefano Ermon.
In *ICML 2018 Workshop on Theory and Applications for Deep Generative Models*. Oral presentation.

December 2017 · **Structured Prediction with Adversarial Constraint Learning**
Hongyu Ren, Russell Stweart, Jiaming Song, Volodymyr Kuleshov and Stefano Ermon.
In *NIPS 2017 Workshop on Learning with Limited Data* .

December 2017 · **An Empirical Study of the Generalization Behavior of Generative Adversarial Networks**
Hongyu Ren, Shengjia Zhao, Jiaming Song, Lijie Fan and Stefano Ermon.
In *NIPS 2017 Workshop on Deep Learning: Bridging Theory and Practice*.

August 2017 · **A-NICE-MC: Adversarial Training for MCMC**
Jiaming Song, Shengjia Zhao and Stefano Ermon.
In *ICML 2017 Workshop on Implicit Models*.

April 2017 · **Generative Adversarial Learning of Markov Chains**
Jiaming Song, Shengjia Zhao and Stefano Ermon.
In *the 5th International Conference on Learning Representations (ICLR 2017) Workshop Track*.

In submission · **Max Margin Nonparametric Latent Feature Models for Link Prediction**
Jun Zhu, Jiaming Song and Bei Chen.

Work/Internship Experiences

June 2018 - **Research Intern,** Facebook AI Research. Mentors: Michael Auli, Yann Dauphin and Tengyu Ma.
Sept 2018 Research on deep learning and optimization.

June 2017 - **Research Intern,** OpenAI. Mentors: Rocky Duan and John Schulman.
Sept 2017 Research on deep reinforcement learning.

April 2016 - **Detection, Tracking and Reidentification Group,** Megvii Inc. Mentor: Chi Zhang
July 2016 Developed a scalable framework to provide distant supervision for unlabeled data, which allows model distillation and merging network structures for different tasks, such as detection and parsing.
Megvii Inc. is a leading unicorn start-up in China, with emphasis on machine learning and computer vision.

July 2015 - **Information Initiative @ Duke (iiD),** Duke University. Advisor: Prof. Lawrence Carin.
September 2015 Worked on conditional factored deep generative models using recent Neural Variational Inference methods, which allows for semi-supervised deep learning and sequence generation with side information.

November 2014 **Statistical AI & Learning (TSAIL) Group,** Tsinghua University. Advisor: Prof. Jun Zhu.
- June 2015 Explored stochastic variational methods for link prediction problems. Proposed an efficient method that would train on a network with over 3 million nodes, a significant improvement over original methods.

July 2014 - **Visual Computing Group,** Microsoft Research Asia. Advisor: Jingdong Wang.
October 2014 Implemented a convolutional neural network for multiple label image annotation with Caffe.

Honors and Awards

June 2018	**Qualcomm Innovation Fellowship (US) Winner,** issued by Qualcomm. Safe Multi-Agent Imitation Learning for Self-Driving (top 4.5%)
June 2016	**Qualcomm Scholarship,** issued by Qualcomm. Offered to Tsinghua undergraduates with exceptional research experiences (top 1%).
June 2015	**Google Excellence Scholarship,** issued by Google. This scholarship is offered to Chinese undergraduate and graduate students who possess remarkable academic achievements and project experiences. 58 students are selected nationwide (6 in Tsinghua University).
April 2015	**Outstanding Winner,** Interdisciplinary Contest in Modeling 2015. Highest award (9 out of 2317) of the contest. Published a paper which models organizational churn using Bayesian-inspired methods and network science. See github.com/jiamings/icm2015 for more details.
April 2015	**Third Prize,** 33rd Tsinghua Challenge Cup, issued by Tsinghua University. Our project implements fast, scalable video segmentation and classification which utilizes deep activation features. Please see jiamings.github.io/projects/decaf-video for details.
October 2014	**Outstanding Undergraduate,** issued by the China Computer Federation (CCF). Only 4 students in Tsinghua, and 100 in China are awarded each year.
May 2014	**Spark Program for Technological Innovation,** Tsinghua University. Among top 50/3000 students for achievements in scientific and technological innovations.
December 2013	**Zhong Shimo Scholarship,** issued by Dept. of Computer Science and Technology. Highest scholarship in the CS Department. (top 0.75%)
July 2011	**Bronze Prize, National Olympiad in Informatics,** issued by China Computer Federation (CCF).

Services

Reviewer	ICLR 2018, BayLearn 2018, ACML 2018
April 2018	**Data Learning and Inference 2018,** Organizer Organizing the Generative Models for Reinforcement Learning workshop.
December 2017	**Women in Machine Learning (WiML) 2017,** Mentor. Invited to discussion panel on "A-NICE-MC: Adversarial Training for MCMC".
December 2017	**Global NIPS Paper Implementation Challenge,** Mentor. Provide guidance to reproduce results in NIPS 2017 papers.

Language Proficiency

TOEFL	Total: 113 (Reading: 30; Writing: 29; Speaking: 24; Listening: 30).
GRE	Verbal: 160/170 (85%); Quantitative: 170/170 (98%); Analytical Writing: 5.0/6.0 (93%).