Tianlin Shi

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Education

2011 – 2015

Tsinghua University, Beijing, China.

- B.Eng. in Computer Science.
- Enrolled in Yao Class, a special pilot CS program led by Prof. Andrew C. Yao for talented students.
- **GPA: 94 / 100**. **Rank: top 1 / 39** in Yao Class.

Spring 2014

Massachusetts Institute of Technology, MA, US.

- Exchange student, Electrical Engineering and Computer Science (Course VI).
- **GPA: 5.0 / 5.0**. Took graduate-level courses: 6.437 inference and information, 6.252 nonlinear programming, 6.816/836 multicore programming.

Work Experience

Jun. 2015 – Summer 2015

Dropbox HQ, San Francisco, CA. *Software Engineer Intern - Computer Vision.*
Worked as an intern on the CV/ML team at Dropbox. Researched the problem of detecting near-duplicate photos from personal camera upload. Based on the algorithm proposed, I also developed a product feature with the recents team to dedup the photos on Dropbox website.

Summer 2014

Stanford AI Lab (SAIL), Stanford University, Palo Alto. *Summer Research Intern.*.
Advisor: Prof. Percy Liang.

- Researched Markov chains for computationally bounded probabilistic inference.
- Explored heterogeneity in probabilistic inference to devise methods that lead to 2-5X speedup for a wide class of structured prediction models (submitted to `AISTATS 2015`).

Feb. 2014 – May. 2014

Computer Science and Artificial Intelligence Laboratory (CSAIL), MIT, Cambridge, MA.
Advisor: Dr. Vikash Mansinghka. Contributed to a probabilistic programming system called Venture by building scalable HMC inference algorithms using automatic gradients (`NEML` 2014).

July. 2013 – Dec. 2011

Microsoft Research Asia, Beijing, China.
Advisor: Thomas Moscibroda, Senior Researcher & Research Manager.

- Developed compressive sensing algorithms to effectively reduce cost of correlated data collection on sensor/social networks, such as air quality indices at different locations in Beijing (`UAI 2014`).
- Explored sparsity-based structured models for social surveying and demographic polling.

State Key Lab of Intelligent Tech. and Systems (TNList), Tsinghua University, Beijing, China.

- Proposed streaming Bayesian learning with regret guarantee, and scaled up max-margin topic models by orders of magnitudes (`ICML 2014`). Advisor: Prof. Jun Zhu.
- Developed a hierarchical method to model visual attention and eye fixations (`CVPR 2014`).

Publications

I am interested in foundations of statistical machine learning, and its application to artificial intelligence, computer vision and natural language processing. Homepage: tianlinshi.com.

[0] Chongxuan Li, Jun Zhu, Tianlin Shi, Bo Zhang. **Max-Margin Deep Generative Models**.
NIPS 2015: To appear in 29th Annual Conference on Neural Information Processing Systems.

[1] Tianlin Shi, Jacob Steinhardt, Percy Liang, **Learning to Sample in Structured Prediction**.
AISTATS 2015:18th International Conference on Artificial Intelligence and Statistics (Oral).

[2] Tianlin Shi, Jun Zhu. **Online Bayesian Passive-Aggressive Learning**.
ICML 2014: 31st International Conference on Machine Learning, Beijing, China, 2014.
Top 18 / 1260+ submissions. Full version is invited to and under review by **JMLR**.

[3] Tianlin Shi, Da Tang, et al. **Correlated Compressive Sensing for Networked Data**.
UAI 2014: 30th Conference on Uncertainty in Artificial Intelligence, Quebec, Canada, 2014.

[4] Tianlin Shi, Liang Ming, Xiaolin Hu. **A Reverse Hierarchy Model for Predicting Eye Fixations**.
CVPR 2014: IEEE Conference on Computer Vision and Pattern Recognition, Columbus, USA.

[5] Jian Li, Tianlin Shi, **An FPTAS for Approximating a Sum of Random Variables**.
ORL: Operations Research Letters 42.3 (2014): 197-202. Major contributor. Author names under alphabetic order according to CS Theory convention.

[6] Tianlin Shi, Alexey Radul, Vikash Mansinghka, **Inference with Automatic Gradients in Higher-Order Probabilistic Programs**.
NEML: Workshop at New England Machine Learning Day 2014.

Talks

May. 2015
Learning Where to Sample in Structured Predictino.
International Conference on AI & Stats 2014. See slides.

Jun. 2014
Online Bayesian Passive-Aggressive Learning.
International Conference on Machine Learning 2014. Available on techtalk.tv.

Honors and Awards

Jun. 2014
Gold Medal, Andrew C. Yao Award, Tsinghua University.
Highest honor for Yao Class students with extraordinary academic achievements.

Oct. 2013
Tsinghua-Baidu Scholarship, Tsinghua University.

2013
Fellowship of Spark Talents Program, Tsinghua University.
Among top 50 / 3000 Tsinghua students dedicated to scientific and technological innovations.

2012
Fellowship of Tsinghua Xuetang Talents Program, Tsinghua University.
Among top 300 / 3000 newly-enrolled Tsinghua students.

Aug. 2011
Gold Medal, China Adolescents Science and Technology Innovation Contest.
Winner of the biggest national competition for adolescents in science and engineering.

Aug. 2011
Intel Juvenile Yingcai Award, Intel (China) Co., Ltd.
An award to select outstanding Chinese high-school students to participate in Intel International Science and Engineering Fair.

Services

2014 2015
Reviewer of ICML 2015, to be held in Lille, France.

2011
China's Welfare Institute Children's Palace, Shanghai, China.
Advised high-school students to work on challenging programming projects.

2012
The Association of Student International Communication (ASIC), Tsinghua University.
Contributed to Global Village, a yearly event for students from nearly 20 countries to exhibit diverse culture. More than 3000 students are involved each year.

Aug. 2012
College View Program, Shanghai JiaoTong University.
Helped high-school students to experience college life.

Programming Experience

Proficient in `C++` and `Python`. Capable of `Java`, `MATLAB`, LaTeX, `Julia`, `Swift`, `C#`, `Objective-C`, `Javascript`, `bash`, `HTML/CSS`. Github: https://github.com/strin.

Mar. 2014
HackPrinceton: a 48-Hour Hackathon, Princeton University.
Built a cooking recipe recommendation system that matches ingredients to recipes.

May. 2015
Unique Hack Day, Wuhan, China.
We built "Hummer": a music game where plays singing pitches to control a character.

Nov. 2014
HackShanghai: China's largest college Hackathon, NYU Shanghai.
Built a smart-watch reader equipped with a fresh way of reading.

Sep. 2013 Jan. 2014
RayX – RayTracer for Photo-realistic Images and Videos, Course Project.
A fast ray-tracing software written in C++ 11 [1-min video].

Sep. 2013 Jan. 2014
YaoTalk: A Conversational System for the IIIS Domain, Course Project.
A chat bot based on dialogue systems, speech recognition and web crawlers that help people know about Yao class.

Miscellaneous

TOEFL Total 111. Reading 29; Listening 28; Speaking 26; Writing 28.
GRE Verbal 159 / 170; Quantity 168 / 170; AW 3.5 / 6.