

CHIYUAN ZHANG

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Education

- 2012-2017 PhD in Electrical Engineering and Computer Science, MIT
Computer Science and Artificial Intelligence Laboratory (CSAIL)
Center for Brain, Minds & Machines (CBMM) 🎓 [Tomaso Poggio](#)
- 2014-2014 Summer Exchange Program in Japan
Graduate School of Informatics, Kyoto University
Computer Science Department, Tokyo Institute of Technology 🎓 [Marco Cuturi](#)
🎓 [Masashi Sugiyama](#)
- 2009-2012 MEng in Computer Science at Zhejiang University 🎓 [Xiaofei He](#) & [Deng Cai](#)
- 2005-2009 BEng in Chu Kochen Honors College & College of Computer Science at Zhejiang University

Selected Publications

- ICML18 Neil C. Rabinowitz, Frank Perbet, H. Francis Song, **Chiyuan Zhang**, S.M. Ali Eslami, Matthew Botvinick: *Machine Theory of Mind*. International Conference on Machine Learning (ICML), 2018.
- ICLR17 **Chiyuan Zhang**, Samy Bengio, Moritz Hardt, Benjamin Recht, Oriol Vinyals: *Understanding deep learning requires rethinking generalization*. 5th International Conference on Learning Representations (ICLR), **Best Paper Award**, 2017.
- NIPS15 **Chiyuan Zhang**^{*}, Charlie Frogner^{*}, Hossein Mobahi, Mauricio Araya-Polo, Tomaso Poggio: *Learning with a Wasserstein Loss*. Advances in Neural Information Processing Systems 28 (NIPS), 2015.
^{*}equal contribution.
- LearningSys Tianqi Chen, Mu Li, Yutian Li, Min Lin, Naiyan Wang, Minjie Wang, Tianjun Xiao, Bing Xu, **Chiyuan Zhang**, Zheng Zhang: *MXNet: A Distributed Deep Learning Framework for Efficiency and Flexibility*. NIPS Workshop on LearningSys, 2015.
- INTERSPEECH15 **Chiyuan Zhang**, Stephen Voinea, Georgios Evangelopoulos, Lorenzo Rosasco, Tomaso Poggio: *Discriminative Template Learning in Group-Convolutional Networks for Invariant Speech Representations*. INTERSPEECH, 2015.
- INTERSPEECH14 Stephen Voinea, **Chiyuan Zhang**, Georgios Evangelopoulos, Lorenzo Rosasco, Tomaso Poggio: *Word-level Invariant Representations from Acoustic Waveforms*. INTERSPEECH (**Best Student Paper Award**), 2014.
- JMLR13 Binbin Lin, Xiaofei He, **Chiyuan Zhang**, Ming Ji: *Parallel Vector Field Embedding*. Journal of Machine Learning Research (JMLR), 2013.
- TCSVT13 **Chiyuan Zhang**, Xiaofei He: *Image Compression by Learning to Minimize the Total Error*. IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2013.
- NIPS12 Binbin Lin, Sen Yang, **Chiyuan Zhang**, Jieping Ye, Xiaofei He: *Multi-task Vector Field Learning*. Advances in Neural Information Processing Systems 25 (NIPS), 2012.
- NIPS11 Binbin Lin, **Chiyuan Zhang**, Xiaofei He: *Semi-supervised Regression via Parallel Field Regulariza-*

tion. *Advances in Neural Information Processing Systems 24 (NIPS)*, 2011.

KDD10 Deng Cai, **Chiyuan Zhang**, Xiaofei He: *Unsupervised feature selection for multi-cluster data*. International Conference on Knowledge Discovery and Data Mining (**KDD**), 2010.

Projects & Experiences

- 2017 Summer Intern at DeepMind: Investigating and modeling the theory of mind (ToM) for reinforcement learning agents (with Neil Rabinowitz); Inspecting the notion of generalization and overfitting in deep reinforcement learning (with Oriol Vinyals).
- 2016 Summer Intern at Google Brain: Understanding the effect of regularization on large neural networks (Host: Moritz Hardt & Samy Bengio).
- 2015 **MXNet** and **MXNet.jl**: lightweight, portable, flexible distributed deep learning library with multiple language bindings; joint efforts by the **DMLC team**.
- 2014 **Mocha.jl**: efficient and extensible multi-backends (GPU & CPU) deep learning framework for Julia. The **3rd most star-ed** Julia package on github.
- 2014 Summer Visiting at Kyoto University and Tokyo Institute of Technology: Optimal Transport (Advisor: Marco Cuturi) & Density Ratio Estimation (Advisor: Masashi Sugiyama) and applications to Domain Adaptation Learning problems.
- 2013 Internship at **Shell Intl. E&P Inc.**: automatic geological feature detection from pre-stack seismic traces with Machine Learning models (Host: Mauricio Araya Polo).
- 2012 **SHOGUN** C++ Machine Learning Library: I surveyed and implemented various well-known multiclass learning algorithms for SHOGUN (Mentor: Cheng Soon Ong, Sören Sonnenburg).
- 2011 Large-scale Content-based Image Search System: I'm a main developer for image cutting, visual features (color and SURF), and distributed computing infrastructure & architecture.
- 2008 **YASnippet**: I created the most popular open source snippet automation plugin for GNU Emacs (now maintained by capitaomorte). The **5th most star-ed** Emacs plugin on github.

Skills

Programming C, C++, CUDA, Julia, Python, Ruby, Matlab, Javascript, with practical experiences.

Language Chinese Mandarin (native), English (fluent), Japanese (intermediate proficiency, JLPT N2).

Professional Activities

- NIPS Reviewer (14-19) of *Advances in Neural Information Processing Systems (NIPS)*.
- ICML Reviewer (16-19) of *International Conference on Machine Learning (ICML)*.
- ICLR Reviewer (18,19) of *International Conference on Learning Representations (ICLR)*.
- JMLR Reviewer (15) and webmaster (13-18) of *Journal of Machine Learning Research (JMLR)*.
- IJCAI Reviewer (13,19) of *International Joint Conference on Artificial Intelligence (IJCAI)*.
- AAAI Reviewer (18) of *AAAI Conference on Artificial Intelligence (AAAI)*.