liang zhou

zh@mit.edu lzil.github.io 347.653.5623

education

Massachusetts Institute of Technology 2014 – 2018

BSc. Electrical Engineering and Computer Science
BSc. Brain and Cognitive Sciences
Minor Mathematics

coursework:

cs algorithms, ML, NLP, statistical learning theory, stochastic processes, robotics
neuroscience comp neuro, cognitive neuro, moral neuro, cell neuro, genetic engineering
other urban sociology, moral philosophy, philosophy of memory, quantum computation

Starting a PhD at UCL's Gatsby Unit under a Marshall Fellowship in fall 2018.

research

Center for Brains, Minds, and Machines Jan 2016 – present

Josh Tenenbaum's group

- modeling and predicting nonlinear constraints (e.g. springs) in physical scenes using MCMC simulations and approximate Bayesian inference
- constructed counterfactual predictions of structural responsibility by simulating a noisy physics engine, ran Amazon Mechanical Turk experiments on human judgments of physical stability

Harvard Center for Brain Science Dec 2016 – Aug 2017

Haim Sompolinsky's group

- investigated learning capacity of Hebbian neural networks under differential constraints, e.g. sparsity, input manifolds, and target choices; solved statistics for one-hidden-layer network

MIT Media Laboratory Jan 2015 – Dec 2015

Hiroshi Ishii's group

- devised algorithms as part of a software suite to generate 3D-printed micron-scale hairs
- improved upon previous methods to produce a 1.5x more robust way of approximating thin spiral structures

publications

1 Gerstenberg, T., **Zhou, L.**, Smith, K. A. & Tenenbaum, J. B. (2017). Faulty Towers: A hypothetical simulation model of physical support. Proceedings of the 39th Annual Conference of the Cognitive Science Society

2 Ou, J., Cheng, C. Y., **Zhou, L.**, Dublon, G., & Ishii, H. (2015). Methods of 3D printing micro-pillar structures on surfaces. Proceedings of the 28th Annual ACM Symposium on User Interface Software & Technology

awards

2017 Marshall Fellowship
2015 MIT Web Programming Competition, *1st place overall*
2014 Sabert Scholarship, *$10,000*
2014 US Physics Team, *top 20 on USA Physics Olympiad*
2013 Intel International Science and Engineering Fair, *finalist*
2012 USA Mathematics Olympiad, *qualifier*

teaching

Machine Learning (graduate) fall 2017
6.867, teaching assistant
Designed problem sets and exams, led weekly recitations, advised project groups. TA rating 6.7/7

Machine Learning (undergraduate) spring 2017
6.036, teaching assistant
Designed problem sets and labs, led recitations and office hours, managed graders. TA rating 6.4/7

Algorithms I & II spring 2015 – spring 2018
6.006 & 6.046, grader
Graded problem sets and exams for 7 terms.

professional experience

Synapse Technologies Jan 2018
Intern, machine learning
Designed and trained SimGAN model to synthetically augment and refine x-ray images.

Apple May 2016 – Aug 2016
Intern, Siri Speech Engineering team
Trained NLP and general recurrent ML models; created NLP i-vector speech models for use in an unfortunately NDA-hidden way. Involved MCFCs, Kaldi, and deep learning.

Lucid Software Jan 2016
Intern, Growth Engineering team
Developed A/B tests for IP-based user routing via Amazon Web Services and deployed a novel user experience pipeline that saw 43% increased conversions and revenue for team account creations.

NextJump May 2015 – Aug 2015
Intern, software engineering
Maintained backend classification of products and wrote ETL jobs for client data with SQL Server.

leadership and service

MIT EECScon Sep 2014 – present

Conference chair of EECScon 2017, the largest US research conference run by and for undergraduates. Led program committee, managed applications, contacted sponsors and oversaw conference planning and logistics. Worked with faculty advisor Prof. Joel Voldman.

Dance at MIT Sep 2014 – present

Choreographer for MIT DanceTroupe, executive board of MIT Asian Dance Team, member of MIT Movementality. Perform hip hop, lyrical, contemporary, and traditional styles in biannual showcases as well as invitations to external events.

MIT Medlinks Sep 2014 – present

Student community peer liaison for MIT Medical; serves to promotes health and wellness on campus by providing OTC medications and active support.

dynaMIT Sep 2014 – Aug 2017

Board member and counselor for a summer science program for low-income middle school students in the Boston area. Created instructional material for and directly mentored students.

other

languages	**English** *native*, **Mandarin** *intermediate*, **Spanish** *basic*
technical	**languages** Python, Java, C++, MATLAB, Javascript, R **skills** deep learning, web development, Linux, Illustrator
interests	running, dance, tennis, origami, penspinning, fruit, dark chocolate