

Georgia Institution of Technology

2017-present

Ph.D. in Machine Learning

- Thesis Supervisor: Prof. Le Song
- Sponsored by Google PhD Fellowship

Chinese University of Hong Kong

2015-2017

M.Phil. (Master of Philosophy) in Mathematics

- Supervisor: Prof. Eric Tsz Shun CHUNG
- Awarded the Postgraduate Studentship for 24 months
- Thesis: Parametric FEM for Shape Optimization [[arxiv](#)]

Chinese University of Hong Kong

2011-2015

Bachelor of Science, Mathematics

- College Head's list - for outstanding academic performance in the year 2013/14
- Professor Charles K. Kao Research Scholarship in 2013/14
- Attended **ETH Zurich, Switzerland** as an exchange student for one semester
- Ranked Top 0.1% among 300,000 science students in the National College Entrance Exam

PUBLICATION

Under Review

1. **A Framework For Differentiable Discovery Of Graph Algorithms**
Hanjun Dai, [Xinshi Chen](#), Yu Li, Xin Gao, Le Song [[openreview](#)]
2. **Learning Two-Time-Scale Representations For Large Scale Recommendations**
[Xinshi Chen](#), Yan Zhu, Haowen Xu, Muhan Zhang, Liang Xiong, Le Song [[openreview](#)]

Conference & Journal

1. **Understanding Deep Architectures With Reasoning Layer**
[Xinshi Chen](#), Yufei Zhang, Christoph Reisinger, Le Song
Advances in Neural Information Processing Systems (NeurIPS) 2020 [[arxiv](#)]
2. **Learning To Stop While Learning To Predict**
[Xinshi Chen](#), Hanjun Dai, Yu Li, Xin Gao, Le Song
International Conference on Machine Learning (ICML) 2020 [[paper](#) | [github](#) | [video](#) | [slides](#)]
3. **RNA Secondary Structure Prediction By Learning Unrolled Algorithms**
[Xinshi Chen](#)^{*}, Yu Li^{*}, Ramzan Umarov, Xin Gao, Le Song
International Conference on Learning Representations (ICLR) 2020, **Oral** [[paper](#) | [github](#) | [video](#)]
4. **GLAD: Learning Sparse Graph Recovery**
Harsh Shrivastava, [Xinshi Chen](#), Binghong Chen, Guanghui Lan, Srinvas Aluru, Le Song
International Conference on Learning Representations (ICLR) 2020 [[paper](#) | [github](#) | [video](#)]
5. **Efficient Probabilistic Logic Reasoning with Graph Neural Networks**
Yuyu Zhang, [Xinshi Chen](#), Yuan Yang, Arun Ramamurthy, Bo Li, Yuan Qi, Le Song
International Conference on Learning Representations (ICLR) 2020 [[paper](#) | [github](#) | [video](#)]
6. **Generative Adversarial User Model for Reinforcement Learning Based Recommendation System**
[Xinshi Chen](#), Shuang Li, Hui Li, Shaohua Jiang, Yuan Qi, Le Song
International Conference on Machine Learning (ICML) 2019 [[paper](#) | [github](#) | [video](#) | [slides](#) | [poster](#)]
7. **Particle Flow Bayes' Rule**
[Xinshi Chen](#)^{*}, Hanjun Dai^{*}, Le Song
International Conference on Machine Learning (ICML) 2019 [[paper](#) | [github](#) | [video](#) | [slides](#) | [poster](#)]
8. **A distinct class of vesicles derived from the trans-Golgi mediates secretion of xylogalacturonan in the root border cell**
Pengfei Wang, [Xinshi Chen](#), Cameron Goldbeck, Eric Chung, Byung-Ho Kang
The Plant Journal 2017 [[paper](#)]

Preprints & Workshop

1. Can Graph Neural Networks Help Logic Reasoning?

Yuyu Zhang*, [Xinshi Chen*](#), Yuan Yang*, Arun Ramamurthy, Bo Li, Yuan Qi, Le Song
NIPS 2019 Workshop in KR2ML [[arxiv](#)]

2. Review: Ordinary Differential Equations For Deep Learning

[Xinshi Chen](#)

A literature review, in partial fulfillment of PhD qualifying exam requirements, 2019 [[arxiv](#)]

3. Master Thesis: Parametric Finite Element Method for Shape Optimization

[Xinshi Chen](#), Eric Chung

CUHK Theses & Dissertations Collection 2017 [[arxiv](#)]

EXPERIENCE

Facebook AI, Menlo Park, United States

2020/06-2020/08

Research Intern in Personalization Team

- Design a user model for large-scale recommendation system. By modeling active and inactive users in different ways, the overall user model is simple yet effective, achieving at least 7% improvement on two largest benchmark datasets that contain billions of user-item interaction data.
- This work is submitted to a top ML conference and is under review.

Ant Financial (subsidiary of Alibaba), Hangzhou, China

2018/06-2018/08

Research Intern in AI Department

- Worked on financial news recommendation
- A Part of the ICML 2019 paper for recommendation system

Oak Ridge National Laboratory, United States

2014/06-2014/08

REU Research Intern

- Mentor: Dr. Joshua Fu, Dr. John Drake and Dr. Kwai Wong
- Solve diffusion-convection equation based on finite element method [[Project link](#)]

AWARD

- Google PhD Fellowship, 2020
- ICLR Travel Award, 2020; ICML Travel Award, 2019
- Postgraduate Studentship, CUHK, 2015-2017
- Best oral presentation in 3rd AoE(Area of Excellence) Symposium, 2016
- Professor Charles K. Kao Research Scholarship, 2013-14
- College Head's list - for outstanding academic performance, 2013-14
- Undergraduate Exchange Scholarship, 2013

ACADEMIC SERVICE

- PC/Reviewer: AAAI 2020/2021, ICLR 2020/2021, AISTAT 2020/2021, NIPS 2020, IJCAL 2021
- Voluntary organizer for 2018 High School Math Competition (held in Georgia Tech)

TEACHING

School of Math, Georgia Institution of Technology

- MATH2551 Multivariable Calculus (Recitation, Teaching) Fall, 2017
Spring, 2018

Department of Mathematics, Chinese University of Hong Kong

- MATH3230 Numerical Analysis (Tutorial) Fall, 2016
- MATH3240 Numerical Methods for Differential Equations (Tutorial) Spring, 2016
- MATH2010 Advanced Calculus I (Tutorial) Spring, 2016
- MATH3230 Numerical Analysis (Tutorial) Fall, 2015
- MATH1510 Calculus for Engineers (Tutorial) Fall, 2015

Enrichment Programme for Young Mathematics Talents

- SAYT1054 Mathematical Analysis (Discussion Group) 2013/11-2014/02

SKILLS

Language

Mandarin (native) **Cantonese** (native) **English** (fluent)

Computer

PYTORCH, TENSORFLOW, SQL, C++, C, MATLAB, LATEX, LINUX.

EXTRA-CURRICULUM

Volunteer Experience

- Bronze Award for Volunteer Service(Individual) 2012 - *issued by HK Social Welfare Department*
- Gold Award for Volunteer Service(Group) 2012 - *issued by HK Social Welfare Department*
- Overall Best Mainland Service Project 2011/12 - *Caring Heart Community Service Project*

Certificates

- Completion of the Mental Health First Aid Course (certified by MHFA International)
- Advanced Open Water Diver (certified by PADI)

Hobbies

Dancing, scuba diving, skiing, etc.