

EDUCATION

Caltech

Pasadena, California

Ph.D. Candidate in Applied and Computational Mathematics

2018–Current

Advisors: Profs. Thomas Y. Hou, Andrew M. Stuart, Houman Owhadi

Tsinghua University

Beijing, China

B.S. in Pure and Applied Mathematics, GPA: 96/100 (overall) and 98/100 (math), ranked 1/89

2014–2018

EXPERIENCE

UCLA

Los Angeles, California

Doing research with Profs. Wotao Yin and Wuchen Li

Summer 2017

- Nonconvex optimization and optimal transport natural gradient in statistical learning (Two papers published)

PUBLICATIONS

- [1] Y. Chen and T. Y. Hou, “Function approximation via the subsampled poincaré inequality”, *Discrete and Continuous Dynamical Systems-A*, 2020.
- [2] Y. Chen, T. Y. Hou, and Y. Wang, “Exponential convergence for multiscale linear elliptic pdes via adaptive edge basis functions”, *arXiv preprint arXiv:2007.07418*, 2020.
- [3] Y. Chen and W. Li, “Optimal transport natural gradient for statistical manifolds with continuous sample space”, *Information Geometry*, vol. 3, no. 1, pp. 1–32, 2020.
- [4] Y. Chen, H. Owhadi, and A. M. Stuart, “Consistency of empirical bayes and kernel flow for hierarchical parameter estimation”, *arXiv preprint arXiv:2005.11375*, 2020.
- [5] Y. Chen, Y. Sun, and W. Yin, “Run-and-inspect method for nonconvex optimization and global optimality bounds for r-local minimizers”, *Mathematical Programming*, vol. 176, no. 1-2, pp. 39–67, 2019.
- [6] J. Chen, Y. Chen, H. Wu, and D. Yang, “The quadratic wasserstein metric for earthquake location”, *Journal of Computational Physics*, vol. 373, pp. 188–209, 2018.

REFeree SERVICES

- Reviewer for SIAM on Numerical Analysis
- Reviewer for 4th International Conference, GSI 2019, Toulouse, France, August 27–29, 2019, Proceedings.

CONFERENCES AND SEMINARS

- Second Symposium on Machine Learning and Dynamical Systems, Fields Institute, Toronto, Sept. 21-25, 2020
 - Talk: Consistency of Hierarchical Parameter Learning: Empirical Bayesian and Kernel Flow Approaches
- Bernoulli-IMS One World Symposium 2020
 - Talk: Consistency of Hierarchical Parameter Learning: Empirical Bayesian and Kernel Flow Approaches
- Oberwolfach Seminar: Beyond Numerical Homogenization, June 9-15, 2019
- Machine Learning for Multiscale Model Reduction Workshop, March 27-29, 2019

- Youth Forum in the 15th Annual Meeting of CSIAM, Qingdao, China, Oct 2017
 - Talk: The quadratic Wasserstein metric for Earthquake Location

TEACHING

- **Teaching Assistant** at Caltech Spring 2020
ACM 109: Mathematical Modeling

SCHOLARSHIPS AND AWARDS

Graduate:

- Kortchak Scholars Program, Department of Computational and Mathematical Sciences 2018–present

Undergraduate:

- Tsinghua Xuetang Mathematics Program, Department of Mathematical Sciences 2015–2018
- Outstanding Undergraduate, Tsinghua and Beijing 2018
- Baosteel Scholarship, Baosteel Corporation 2017
- Scholarship in Memory of the “12.9” Student Movement, Tsinghua 2016
- Qualcomm Scholarship, Qualcomm Corporation 2016
- Scholarship in Memory of Prof. Ou Li (Mathematics) 2016
- National Scholarship, Ministry of Education of China 2015

SKILLS

- **MATLAB:** proficient
- **LaTeX:** proficient
- **Python:** Intermediate

LANGUAGES

- **English:** fluent
- **Chinese:** native