Mayee Chen

Curriculum Vitae

Education

09/19 – **Stanford University**, *PhD in Computer Science*
- Advisor: Christopher Ré

09/15 – 06/19 **Princeton University**, *B.S.E in Operations Research and Financial Engineering (ORFE), certificate in Applications of Computing*, GPA: 3.962/4
- Graduated Summa Cum Laude
- Senior Thesis: *A Quantum Version of the Multiplicative Weights Algorithm* (recipient of the Ahmet S. Çakmak Thesis Prize)
- Thesis advisor: Elad Hazan

Research Interests

I am interested in understanding theoretical questions in modern machine learning and using them to develop new methods. I currently am working on how to evaluate sources of supervision, such as in weakly and semi-supervised learning, and how to address model misspecification in these settings. I also enjoy reading about information theory, online optimization, and probability theory.

Publications

- **Comparing the Value of Labeled and Unlabeled Data in Method-of-Moments Latent Variable Estimation**
  Mayee F. Chen*, Benjamin Cohen-Wang*, Steve Mussmann, Frederic Sala, and Christopher Ré.
  Submitted, 2020.
- **Efficient Exploration in Linear MDPs with Nonlinear Confounding Rewards**
  Mayee F. Chen, Yao Liu, Evan Z. Liu, and Emma Brunskill.
  Submitted, 2020.
- **Network Disruption: Maximizing Disagreement and Polarization in Social Networks**
  Mayee F. Chen and Miklos Z. Racz.
  Submitted, 2020.
- **Train and You'll Miss It: Interactive Model Iteration with Weak Supervision and Pre-Trained Embeddings**
  Mayee F. Chen*, Daniel Y. Fu*, Frederic Sala, Sen Wu, Ravi Teja Mullapudi, Fait Poms, Kayvon Fatahalian, and Christopher Ré.
  arXiv preprint arXiv:2006.15168, 2020.
- **Fast and Three-rious: Speeding Up Weak Supervision with Triplet Methods**
  Mayee F. Chen*, Daniel Y. Fu*, Frederic Sala, Sarah M. Hooper, Kayvon Fatahalian, and Christopher Ré.
  International Conference on Machine Learning (ICML), 2020.
- **Effect of Rotational Grazing on Plant and Animal Production**
  Mayee F. Chen and Junping Shi.
  Journal of Mathematical Biosciences and Engineering, vol. 15, no. 2. 2018.
- **Efficient GCD Computation for Big Integers on Xeon Phi Coprocessor**
  Jie Chen, William Watson, and Mayee F. Chen.
  IEEE Conference on Networking, Architecture, and Storage (NAS). 2014.

Awards and Honors

2019 Ahmet S. Çakmak Prize, *Princeton University*, awarded for innovative research and an exceptional senior thesis.

2018 Phi Beta Kappa, *Princeton University*, one of 28 early inductees.

2017 Tau Beta Pi Engineering Honor Society, *Princeton University*

2017 Shapiro Prize for Academic Excellence, *Princeton University*, awarded to 2-3% of the class for exceptional academic record.

2018 Google Games NYC 2nd Place

2017 Princeton Pitch Competition 3rd Place, *Princeton University*, entrepreneurship award

2017 Jane Street INSIGHT Program (winternship) - Quantitative Trading

Work Experience

2016 – 19 **Grader for Computer Science Department**, *Princeton University*

- For Algorithms and Data Structures (lead grader), Functional Programming, Reasoning about Computation, Introduction to Machine Learning, and Economics and Computing

06/18–08/18 **Quantitative Trading Intern**, *IMC Trading*, Chicago, IL, Fixed Income, Currencies, and Commodities Desk

- Developed strategies for trading treasury futures and options around news events
- Used Python pandas library to analyze pricing and trade data
- Participated in mock trading (open outcry and electronic) and options theory lessons

05/17–08/17 **Software Engineering Intern**, *Google*, Mountain View, CA, Advertiser Platform Team

Worked on AdWords Next Overviews, frontpage data analytics for ads campaigns

- Worked with asynchronous Java backend frameworks and Angular Dart frontend
- Developed a heuristic greedy RPC scheme for obtaining geographic breakdown data, reducing the CPU of AdWords Next Overviews by approximately 40% (in production)
- Developed a geographical hierarchy algorithm to cull extraneous RPCs; 10% CPU reduction (in production)
- Designed and added zoom functionality for the geographical data and time comparison visualization for auction performance

05/16–08/16 **Engineering Practicum Intern**, *Google*, Mountain View, CA, Cloud/Cluster/Kernel team

Worked on a tech infrastructure tool for pushing configuration and data updates to services within Google

- Wrote HTTP handlers in Go for backend development and some HTML and JavaScript Closure frontend
- Improved previously static UI's functionality to dynamically update tables displaying data pushes
- Added UI support for push operation RPC calls (pausing, resuming, canceling, and reverting a push) to the control server, including user authentication and push verification
- Redesigned and rewrote testing framework to include test server backend

Coursework

Relevant graduate courses:

- Convex Optimization II, Randomized Algorithms

Relevant undergraduate courses:

- *ORFE Courses:* Probability Theory (graduate-level course), Computing and Optimization for the Physical and Social Sciences, High Frequency Trading, Decision Modeling for Business Analytics, Monte Carlo Simulation, Strategy and Information, Financial Mathematics, Optimization, Analysis of Big Data, Probability and Stochastics, Microeconomic Theory, Statistics
- *Computer Science Courses:* Optimization for Machine Learning (graduate-level seminar), Computer Networks, Operating Systems, Economics and Computing, Introduction to Machine Learning, Information Security, Human-Computer Interfaces, Neural Networks, Functional Programming, Reasoning About Computation, Programming Systems, Algorithms and Data Structures

Leadership and Activities

At Stanford University:

- XTRM Kpop Cover Group: dance captain (2019–)
- Alliance Dance Team (2019–)

At Princeton University:

- Triple 8 Dance Company: choreographer, publicity chair (2015–19)
- Kappa Kappa Gamma Zeta Phi Chapter: VP of Education, Risk Management Chairman (2016–19)
- Corporate Finance Club: VP of Education - Trading and Quantitative Finance, Equity Research (2016–18)
- Kokopops Dance Group: dance captain (2017–19)
- Freshmen Advisee Interactor for School of Engineering (2017–19)
- Envision Technology Conference: Officer on Logistics and Publicity teams (2017)
- Lean-In Circle leader: led discussions on issues facing minorities in tech (2017)

Skills

Advanced: Python, C, Java Intermediate: Go, OCaml, R, Dart Basic: Matlab, Julia