Frank Cheng

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Work Experience

Research Assistant, Michael P. Wellman, University of Michigan EECS ***September 2015-present***

- Developed a novel framework for modeling financial networks
- Applied computational game theory to dynamic agent-based models of financial markets

PhD Intern, Google Research ***June 2017-September 2017***

- Open ended research on methods for differential privacy. Developed, implemented, and tested an original algorithm based on compressed sensing
- Deployed efficient algorithms for sampling statistical distributions at scale

Graduate Intern, MITRE Corporation ***March 2012-June 2013***

- Implemented, trained, and tuned Markov model for speaker diarization
- Successfully deployed as part of suite of tools used in real judiciary settings

Quantitative Analyst, JustAnswer.com ***March 2012-June 2013***

- Mined clickstream data to develop online learning bidding algorithm
- Conducted inference on multiple hypothesis A/B tests
- Directly oversaw $100,000 in daily marketing spend

Quantitative Analyst, Bank of America ***August 2010-March 2012***

- Improved statistical models for estimating loss distribution parameters in top retail lending portfolio
- Used financial and statistical theory to improve hedging procedures for credit and market risk

Research Assistant, Tobias J. Moskowitz, Chicago Booth School of Business ***February 2009-June 2010***

- Evaluated models from economics and psychology using sports data
- Work published in bestselling book *Scorecasting* [Amazon]

Conference Publications

F. Cheng, M.P. Wellman. 2017. "Accounting for strategic response in an agent-based model of financial regulation" In *Proceedings of the 18th ACM Conference on Economics and Computation*, pages 187-203. ACM. [pdf]

F. Cheng, J. Liu, K. Amin, M.P. Wellman. 2016. "Strategic payment routing in financial credit networks." In *Proceedings of the 17th ACM Conference on Economics and Computation*, pages 721-738. ACM. [pdf]

Education

University of Michigan 2015 to present – PhD in Computer Science
Relevant coursework: Machine Learning, Algorithms, Artificial Intelligence, Data Mining in Large Graphs

University of Michigan 2013 to 2015 – MA in Statistics
Relevant coursework: Statistical Machine Learning, Information Theory, Graphical Models, Mathematical Statistics, Statistical Programming

University of Chicago 2006 to 2010 – BA in Physics and Economics

Skills and Interests

Computer--Proficient in SQL, Python, R, MATLAB, C++. Knowledge of SAS and Java.
Language--Fluent in Chinese (Mandarin and Shanghai Dialect)
Interests--Basketball, Poker, Statistics in sports