

Yuchen Wang

Tel: 617-676-8855 |E-mail: yuchenw@mit.edu

Education

Massachusetts Institute of Technology, Cambridge, MA 2016-2020

Candidate for Ph.D. in Operations Research

Advisor: Prof. Dimitris Bertsimas GPA: 5.0/5.0

Thesis: Interpretable machine learning methods with their applications to healthcare.

Peking University, Beijing, China 2012-2016

BS, major in Mathematics and minor in Economics, Summa Cum Laude

Thesis: Applications of paired trading strategy in China A shares.

Experience

Facebook Research, Menlo Park, CA 2019

Research Scientist Intern working in Economics, Algorithmic, Optimization team

- Using machine learning algorithm to decide personalize reserve price for second price auction in advertisement. Find potential opportunity to improve the total revenue.
- Find advertisement market abstractions for simulation by matrix completion and clustering method. Can be used to predict the result of Budget A/B Test. Plan to write a paper about this.

MIT Operations Research Center, Cambridge, MA 2015-2020

Research Assistant

- Developing interpretable machine learning algorithm using optimizations, mainly on optimal decision trees and optimal clustering method.
- Use the algorithm I developed to solve healthcare problems in transplantation and pediatrics.

MIT Sloan School of Management, Cambridge, MA 2016-2020

Teaching Assistant

- TA for Machine Learning Under a Modern Optimization Lens for 2 years. Conducted recitations for 120 students, created and graded 12 problem sets and midterms. Graded final projects.
- Mentored four masters to do projects about NLP with McKinsey & Company.

Selected Publications

"Development and validation of an Optimized Prediction of Mortality (OPOM) for candidates awaiting liver transplantation" with D. Bertsimas, J. Kung, N. Trichakis, R. Hirose, P. Vagefi, 2019, American Journal of Transplantation.

"Comparison of Machine Learning Optimal Classification Trees With the Pediatric Emergency Care Applied Research Network Head Trauma Decision Rules" with D. Bertsimas, J. Dunn, S.Dale, T. Trikalinos, 2019, JAMA Pediatrics.

"Optimal Nonlinear Trees for Predictions" with D. Bertsimas and J. Dunn, submitted to Machine Learning.

"Optimal Predictive Clustering" with D.Bertsimas and M. Sobiesk, submitted to Journal of Machine Learning Research.

Honors and Awards

Outstanding Graduate Award, Peking University | Canon Scholarship | May Fourth Scholarship
Gold Medal in 2012 Chinese Mathematical Olympiad (CMO)

Skills and Interests

Programming: Python, Julia, C/C++

Optimization/Stats: Gurobi, R, Pytorch, Tensorflow, Mosek