

CYNTHIA ZENG

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CURRENT EDUCATION

Massachusetts Institute of Technology | Doctoral Candidate 2019 - Present
· Supervisor: Professor Dimitris Bertsimas.
· Research Project: machine learning and optimization algorithms for time series data analytics; application area include hurricane forecasting, weather prediction, matrix and tensor imputation.
· Courses: Fundamentals of Probability (15.085), Introduction to Mathematical Programming (15.081). Machine Learning Under an Optimization Lense (15.095), Nonlinear Optimization (15.084), Robust Optimization (15.094).

PREVIOUS EDUCATION

Imperial College London | BSc in Mathematics 2014 - 2017
First-Class Honours · Top 15% Class Rank
Western Academy of Beijing | International Baccalaureate Diploma 2011 - 2014
International School · IB Grades: 41/45 · Academic Awards: Economics, Chinese Literature, Physics

RESEARCH AND INDUSTRY EXPERIENCE

MIT Operations Research Center | Research Assistant | Boston, US Aug. 2019 - Present
Developing machine learning and optimization for time series data analytics.
SoftBank Investment Advisors | Investment Analyst | Shanghai, China Mar. 2019 - Jul. 2019
Performed company due diligence research, project manager and white paper author of a confidential internal project related to privacy computing.
MIT Media Lab | Research Intern | Boston, US Jun. 2018 - Aug. 2018
Computational social science model to study urban planning.
BlackRock Active Equities | Analyst | London, UK Jul. 2017 - Jun. 2018
Data scientist of an algorithmic fund, generating mid/long-horizon trading strategies. Completed 9-month rotation in fundamental research. Group leader and winner of BlackRock Hackathon EMEA Category Championship.
BlackRock Active Equities Summer Internship | Analyst | London, UK Jun. 2016 - Aug. 2016

RESEARCH PROJECTS

Hurricane Forecasting | MIT Operations Research Center Sept. 2019 - Present
Developing data-driven algorithms to forecast hurricane trajectory and intensity, methods include: tensor completion, recurrent neural networks, regression and classification algorithms.
Safi Weather Forecasting | MIT Operations Research Center Sept. 2019 - Present
Developing a Prediction & Prescription model to help reduce air pollution from a chemical plant into the nearby city Safi of Morocco, using data-driven near-term wind forecasting model developed in-house.
Complex Systems Modelling | MIT Media Lab Jun. 2018 - Aug. 2018
Multi-agent system to simulate the coupling effect of urban expansion and sea level rise to mangrove ecosystems in Rio de Janeiro. Paper presented at the IEEE Aerospace Conference 2019 (pdf).
Opinion Dynamics | Undergraduate Research Project Jan. 2017 - Jun. 2017
Agent-based modelling approach to study opinion formation to explore the danger of populism, alternative poll forecast model. Theoretical model using statistical mechanics and computational simulation in Python.
Introduce Gaussian Processes into Bayesian Linear Regression | Group Project Jun. 2016 - Jul. 2016
Formulated theoretical statistical model, applied computational calculation to weather forecasting.

EXTRA-CURRICULUM ACTIVITIES

Leadership Positions

· MIT Operations Research Center INFORMs officer 2019/20
· Imperial College Hiking Society, Social Secretary 2016/17
· Imperial College Maths Society, Vice President 2015/16

Achievements

· 200-Hour Vinyassa-style Yoga Teacher Training certificate Jan.2019

- 40-mile orientation challenge in the Peak District (UK), completed in 17 hours Apr. 2016
- Maths championship among international schools in China May 2011
- Youngest participant of the river preservation act, Yangtze River White-Water Rafting Adventure Apr. 2009

Volunteering

- Mountain School: taught English and maths, sponsor of a disadvantaged student Summer, 2015, Nepal
- Goat's Cheese Farm: organic farming, self-sufficient living Winter, 2015, France
- Rice Farm: farming, gave a talk about the social enterprise industry in China Summer, 2014, Taiwan
- Social Enterprise: eco-product development and marketing intern Summer, 2014, China
- Animal Shelter Volunteer: founder and leader of a high school student society Aug. 2012 - Jun. 2014, China

SKILLS AND INTERESTS

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| Languages | Mandarin (Native), English (Fluent), Italian (Improving) |
| Programming | Python, PyTorch, Julia, R, Matlab, L ^A T _E X |
| Interests | Hiking, Yoga, Tennis, Backpacking |
| Qualifications | CFA Level 1 GRE: quantitative 169, verbal 158, analytical writing 5.0 |