

CYNTHIA ZENG

<https://cynthiazeng.github.io> · czeng12@mit.edu

EDUCATION

Massachusetts Institute of Technology | Doctoral Candidate 2019 - Present
· Supervisor: Professor Dimitris Bertsimas.
· Courses: Optimization (Linear, Non-Linear, Robust, Mixed-Integer), Statistical Learning, Probability.
· Teaching Assistant: Data Risk and Decisions (MBA course), Machine Learning Under an Optimization Lens.
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 STATEMENT

For my PhD research, I wish to apply artificial intelligence to build resilience around climate change. In the long term, I hope to address impactful problems in the world through technology.

PUBLICATIONS

Hurricane Forecasting: A Novel Multimodal Machine Learning Framework
· with Boussioux et. al., AMS Journal of Weather and Forecasting, 2022.
· appeared at NeurIPS, Tackling Climate Change with AI, 2021 (spotlight talk).
Integrated Multimodal Artificial Intelligence Framework for Healthcare Applications
· with Soenksen et. al., Nature Digital Medicine, 2022.
From predictions to prescriptions: A data-driven response to COVID-19
· with Bertsimas et. al., Health Care Management Science, 2020
· Winner of INFORMS Healthcare Applications Society William Pierskalla Best Paper Award (2020).
Combining Social, Environmental and Design Models to Support the Sustainable Development Goals
· with Jack Raid and Danielle Wood, IEEE Aerospace Conference, 2019.

ON-GOING RESEARCH

Flood Prediction: a Multimodal Machine Learning Approach
· Combining satellite, text-based, time-series data for flood prediction on a global scale.
TabText: a Systematic Approach to Aggregate Knowledge Across Tabular Data Structures
· Novel NLP technique to treat tabular data.
Data-Driven Pollution Management with Precision Weather Forecasting
· Reduce air pollution impact from a chemical plant in Morocco, collaboration with OCP.
Early Detection for Chronic Disease Onset using Medical Claims Data
· Personalized and holistic risk score construction for long-term patient health management.

RESEARCH AND INDUSTRY EXPERIENCE

BlackRock Scientific Active Equities | Summer Research Associate | San Francisco, US 2022
Signal development for pharmaceutical companies using drug information.
SoftBank Investment Advisors | Investment Analyst Intern | Shanghai, China 2019
Project manager and white paper author of a confidential internal project related to privacy computing.
MIT Media Lab | Summer Research Intern | Boston, US 2018
BlackRock Active Equities | Analyst | London, UK 2017 - 2018
Fundamental-driven analyst. Group leader and winner of BlackRock Hackathon EMEA Category Championship.

SKILLS AND INTERESTS

Extracurriculum	SERC Scholar of the Schwartzman College of Computing, Founder of Women of ORC, Secretary of the MIT European Club, Founder of ORC Student Seminar
Languages	Mandarin (Native), English (Fluent), Italian (Intermediate)
Programming	Python, PyTorch, Julia, TensorFlow, R, Matlab, \LaTeX
Interests	Hiking, Yoga, Tennis, Skiing, Volunteering.
Qualifications	CFA Level 1, GRE: quantitative 169, verbal 158, analytical writing 5.0.