

Hange (Cathy) Zhu
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EDUCATION

Princeton University

Princeton, NJ

Master in Finance Candidate, Bendheim Center for Finance

August 2021 – Expected May 2023

- **Anticipated Courses:** Statistical Analysis of Financial Data; Financial Econometrics; Asset Pricing; Stochastic Calculus; Machine Learning and Pattern Recognition

Brandeis University

Waltham, MA

Bachelor of Science in Applied Mathematics, Bachelor of Science in Economics

August 2017 – December 2020

- **GPA:** 3.92 / 4.0; **Honors:** Phi Beta Kappa, magna cum laude, Dean's List
- **Fields of Study:** Stochastic Processes and Models; Probability Theory; Differential Equations; Mathematical Statistics; Applied Linear Algebra; Advanced Programming Techniques in Java; Econometrics; Mathematics for Natural Sciences

WORK EXPERIENCE

Alibaba Group Company

Beijing, China

Data Analyst Remote Assistant, Business Intelligence Department

June 2020 – August 2020

- Researched fresh food e-commerce industry in both pre and post COVID periods in mainland China, including tracing fresh food industry development history and supply chain deficiencies, analyzing three modes' (warehouse, community group buy, and O2O) leading companies and their performances, predicted how the industry and consumer behaviors would be influenced by COVID. Conducted cluster analysis of China's cities by R.
- Researched O2O chocolate candy industry development and major players in the field by looking through Euromonitor datasets, market research, and financial statements.
- Participated in the investment group and applied Deep Deterministic Policy Gradient (DDPG) algorithm to train the investment portfolio management model.

Zhongtai Securities Co., LTD

Beijing, China

Summer Assistant, Investment Banking Department

June 2019 – August 2019

- Assisted with an M&A project in the sharing economy and conducted industry research on the bike sharing market, including the evaluation of two companies' financial reports, analyzing the comparative companies' market shares, financial indexes, predicting future development directions and market share.
- Participated in analyzing the acquired company's valuation by researching its financing history and core technologies, identified key market leaders and competition.

RESEARCH & COURSE PROJECTS

Brandeis University, Applied Mathematics Department

Waltham, MA

Research Assistant, Chemical Oscillations Project

January 2020 – August 2020

- Analyzed PDEs models in biological supplements by collaborators from the Department of Chemistry to numerically convert them in weak formulation.
- Dug into the relationship between nondimensionalized concentrations of HBrO_2 and $\text{Ru}(\text{bipy})_3^{3+}$, and the volume fraction of polymer by analyzing and visualizing PDEs in MATLAB, FreeFem++ and Mathematica. Updated solution results to research team, including analyzing unexpected numerical fluctuations and blow-ups.
- Hunted for the directional locomotion of the gel driven by autonomous propagation of pulse waves in 1D system and the periodic migration of the gel with illumination-induced instability in 2D system.

Brandeis University, Applied Mathematics Department

Waltham, MA

Biodiversity Model and Its Application in Python Project

December 2019

- Modeled Python program based on the mathematical models from "The Measurement of Diversity in Different Types of Biological Collections" by E. C. Pielou.
- Generated biodiversity trend in Finglandrigg National Reserve, UK by reconstructing and applying real-world dataset to the Python model in visualized format.

Brandeis University, Business Department

Waltham, MA

Oracle and Salesforce Financial Analysis Project

April 2019

- Analyzed financial comparisons between Oracle and Salesforce by examining financial statements and indexes obtained from Capital IQ, including comparing asset profitability, equity profitability, and debt repayment ability.

LEADERSHIP AND INVOLVEMENT

Brandeis University, Chinese Student Association (BC3)

Waltham, MA

President

September 2019 – May 2020

- Organized activities associated with Chinese traditional festivals and collaborated events with other cultural clubs.

SKILLS AND INTERESTS

Technical Skills: Python, Java, R, MATLAB, SQL, Excel.

Languages: Mandarin (Native)

Interests: scuba diving, photographing, LEGO building.