

Derek Li

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EDUCATION

The University of Chicago

Chicago, IL

Master of Science in Financial Mathematics

Expected December 2025

- Courses: Portfolio Theory & Risk Management, Python, Option Pricing, Probability & Stochastic Processes

Bachelor of Science in Computer Science (Machine Learning Specialization)

March 2024

Bachelor of Arts in Economics (Data Science Specialization)

March 2024

- Dean's List, University Scholar, Financial Markets Program
- Courses: Causal Inference, Time Series Analysis, Honors Econometrics, Theory of Algorithms, Nonparametric Inference, Machine Learning, Computer Vision, Multivariable Calculus, Abstract Linear Algebra

SKILLS

Technical: Java, Python (PyTorch, Pandas, NumPy, etc.), C/C++, C#, R, Haskell, Coq, Verilog/SystemVerilog, Assembly

Software: Git, Anaconda, Visual Studio and VS Code, Eclipse, RStudio, Google Suite, Microsoft Office, Adobe Suite, LaTeX

EXPERIENCE

Eaton

Davenport, IA

Software Engineer Intern

June 2022 – September 2023

- Built a Windows desktop application using C#, WPF, and .NET to decode, parse, and visualize time-series data, reducing data processing times by 300%
- Managed a team of 6 full-time engineers to develop 190+ automated Python test procedures and fix software defects, responsibilities included project management, leading peer reviews, tracking test metrics, etc.
- Wrote and completed 300+ code reviews and analyses in an Agile/Scrum environment for embedded software quality assurance and regression testing (SVN, JIRA, Collaborator)

University of Chicago, Computer Science Instructional Laboratory

Chicago, IL

Machine Learning Team Lead

May 2022 – May 2023

- Led 4+ members on the Machine Learning team to develop a neural networks course in Python, presented to 25+ students
- Leveraged lab resources to implement and train CycleGAN and VAE-LSTM models for student projects using PyTorch

University of Chicago, Undergraduate Research Administration

Chicago, IL

Data Analyst Intern

June 2021 – August 2021

- Automated human-labor intensive tasks for an electronic research administration database system using Python Selenium, significantly decreasing manual efforts and freeing up 50+ hours per month for team members
- Performed exploratory data analysis on financial data to provide insights on changes from FY19 to FY21

Case Western Reserve University, Computer Science Department and Cleveland Clinic

Cleveland, OH

Research Assistant

May 2020 – September 2020

- Created Python script pipelines for clustering, analysis, and visualization of SARS-CoV-2 genomic data
- Generated phylogenetic trees to determine evolutionary history of early COVID-19 pandemic
- Analyzed SARS-CoV-2 genetic mutations and disease outcomes to publish a paper in the JAMA Network Open

PROJECTS & RESEARCH

eBay Machine Learning Challenge

RoBERTa for German Named Entity Recognition

November 2023

- Developed and trained custom RoBERTa language model using Hugging Face and PyTorch to solve a 34-class classification task regarding German product listings

The University of Chicago

Nonparametric Covariance Regression

January 2023 – March 2023

- Constructed a nonparametric model for estimating the conditional covariance matrix between stock and bond indices through extension of Nadaraya-Watson Estimators and covariance decomposition, implemented model in R

LEADERSHIP & AWARDS

University of Chicago Science Olympiad, Co-President

September 2020 – May 2023

- Organized annual science competition for high school and middle school students with 1500+ participants
- Directed and oversaw a board consisting of five different teams and 40+ members
- Wrote and proctored computer science, physics, and biology exams in Ohio, Illinois, Pennsylvania, and California
- Received "Unsung RSO" award from the University of Chicago for "positively influencing a program from behind the scenes with a positive attitude, a willingness to help in whatever capacity necessary, and a commitment to excellence"