

Sophia Nguyen

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EDUCATION

Columbia University, College of Engineering

New York, NY

Bachelor of Science, Computer Science

Expected May 2024

- **GPA:** 4.18 / 4.3, Dean's List, Full-Ride Scholarship
- **Coursework:** Data structures and Algorithms (TA), Probability and Statistics (TA), Computer System (TA), Stochastics Process (TA), Machine Learning (TA), Computer Network, Functional Programming.
- **Awards:** Third Prize - European Girls' Mathematical Olympiad, 2-time USAMO Qualifier

WORK EXPERIENCE

AQR Capital Management

Greenwich, CT

Quantitative Research Intern

May 2023 - August 2023

- Joined the Macro & Multi-Strategy team to extract a signal for trading in commodity markets
- Devised and implemented 4 novel momentum trading strategies and 2 signals in Python
- Generated statistically significant alpha over current time series momentum strategies
- Achieved an annualized SR of 1.35 over 15 years of backtesting on a portfolio of 61 commodities

Columbia University

New York, NY

Teaching Assistant

May 2020 - May 2023

- Wrote exams, led recitation sections, and managed 6 TAs for Intro to Probability in 6 semesters
- Authored 25 Python scripts demonstrating key concepts in probability/stochastic processes
- Promoted to Head Teaching Assistant in the Spring 2022 semester

VinAI Research

Hanoi, Vietnam

Software Engineer Intern

June 2022 - September 2022

- Developed a Computer Vision labeling tool annotating **50+ unique objects consistently** for each of **300,000+** images.
- Optimized per click annotation time by **91%** after refactoring inefficient microservices and expanded the annotation usage from static 2D images to 3D cuboids by initiating the replacement of Keras with TensorFlowJS.

The University of Texas at Austin, Oden Institute

Austin, TX

Research Assistant

May 2021 - September 2021

- Examined effectiveness of social distancing against COVID spreading rate between Stochastic / Deterministic models.
- Fine-tuned hyper-parameters of three ML algorithms reaching **optimal minimum Mean Square Error of 0.32** when assessing ocean storms' seismic data against the existing dataset.

PROJECTS

Intuition to Probability

February 2021 - December 2021

Contributor

- Authored the official course textbook for Intro to Probability, used by over 2000 students
- Created and typeset 600 pages of content and detailed solutions to 1000+ exercises in LaTeX

Columbia Study Space Finder

Backend Developer, Team of 3

January 2021 - August 2021

- Developed an iOS app connecting **7 libraries and ~450 study spaces**, helping **10000** students find a room real-time.
- Architected 5 relational databases connecting users, libraries, images, rooms, booking history and streamlined the image uploading process **to instant time** by self-designed API.

ADDITIONAL INFORMATION

Languages: C++, Python, Java, JavaScript

Framework and Technologies: Pandas, Numpy, Scikit-Learn, TensorFlow, Flask, React, NodeJS, Docker