Bonnie Akhavan

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Education

Cornell University College of Engineering, *Computer Science and Operations Research Engineering, B.S., GPA: 4.1*
Massachusetts Institute of Technology, *Operations Research, M.S., Expected Graduation: May 2024, GPA: N/A*

Relevant Coursework

Statistics | Optimization | Machine Learning | Algorithms | Computer Vision | Stochastic Processes |
Database Systems | Networks | Functional Programming | Linear Algebra | Simulation Modeling and Analysis

Relevant Experience

Quantitative Strategy Summer Analyst, Goldman Sachs   **June 2022-August 2022**
- Rotated between the Structured Finance & Lending Strats desk and Marquee Data Analytics team
- Created a self-updating forecast to balance funding costs with expected loan withdrawal amounts given historical data
- Integrated Marquee Screens and Screeners REST APIs into gs_quant, Goldman's open-source Python library

Research Assistant, Cornell University   **September 2021 – June 2022**
- Worked as part of the Cornell COVID-19 Modelling Team under Professor Peter Frazier to study, simulate, and forecast the progression of COVID-19 across the Cornell University campus in Ithaca, NY
- Created live visualizations in Tableau for the Cornell administration to monitor infections on campus
- Performed regression analysis on transmission rates based on symptom status for the NYC Health Dept.
- Developed simulation parameters to accurately estimate infection rates across campus

Various Teaching Positions, Cornell University   **January 2020 – December 2021**
- Held office hours, graded material, and acted as course liaison for students in Engineering Statistics II, Engineering Calculus, Machine Learning, and Object-Oriented Programming and Data Structures (Java)
- Taught Java and object-oriented programming concepts in weekly recitation sessions of approx. 25 students

Intelligent Systems Subteam Member, Cornell Data Science   **March 2021 – May 2022**
- Engaged in team reading groups and paper writing sessions on current machine learning research
- Trained a reinforcement learning agent to play Texas Hold'em against human players

Quantitative Strategy Summer Analyst, Goldman Sachs   **June 2021-August 2021**
- Rotated between the Synthetic Products Strats Desk and Commodities Strats Desk
- Constructed a new averaging swap tradable using forward starting executions
- Designed architecture for a new auto-quoting system to price credit valuation adjustments on oil derivatives

Software Development Intern, Bandwidth   **May 2020 – August 2020**
- Worked on the design and performance testing of a new international least cost routing engine concept
- Deployed applications using DevOps tools such as OpenShift (Kubernetes), Jenkins, Docker, and Maven
- Presented a SQL-based cost routing system with a 2.3 millisecond average response time

Machine Learning/Engineering Intern, Vonage   **May 2019 – July 2019**
- Led efforts using NLP software to train models predicting customer service complaints with 95% accuracy
- Wrote cleaning programs to extract information from dense and diverse customer email data

Additional Experience

Philanthropy Chair, Tau Beta Pi   **April 2021- April 2022**
- Organized service events for the NY Delta Chapter of Tau Beta Pi
- Inducted as a member in 2020, along with the top 12.5% of students in the Cornell Engineering Class of 2022

Corporate Relations Co-Director, Women in Computing at Cornell   **December 2019-January 2021**
- Responsible for all corporate events and sponsorships for Cornell's chapter of the ACM-W
- Corresponded with over 60 companies such as Google, Facebook, and Goldman Sachs to plan recruitment events
- Raised over $14,000 in scholarship funds during my tenure

Selected Additional Projects
- Designed a convolutional neural network using PyTorch to classify 16 different animals through images
- Created models and forecasts to assess car accident risk in various conditions and locations across the US

Honors and Awards

SAIC Scholarship (2021), Tau Beta Pi Scholarship (2021), Merrill Presidential Scholar (2022)

Skills

Computing Skills: Python, Java, MATLAB, C, Unix/Linux, SQL, Tableau, LaTeX, OpenShift, GitHub, Simio, Assembly, OCaml, gs_quant, Slang
Languages: English (native), German (fluent), Spanish (basic)