Asher Baraban

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Education

Washington University in St. Louis   August 2019 - May 2023

B.S., *summa cum laude* in Computer Science and Mathematics; Minor in Economics
M.S., *summa cum laude* in Data Analytics and Statistics
GPA 4.0/4.0
Awards: Valedictorian, Antoinette Frances Dames Award Winner, Dean's List all semesters, Tau Beta Pi
Advanced Coursework

- Topics in Financial Mathematics (Math 456)
- Game Theory (Econ 467)
- Detection and Estimation Theory (ESE 524)
- Probability and Stochastic Processes (ESE 520)
- Linear Algebra (Math 429)
- Optimization (ESE 415)

Professional Experience

Harvard University – Opportunity Insights   July 2023 - Present

Pre-Doctoral Research Fellow in Economics under Profs. Chetty, Friedman, and Hendren
- Analyze racial credit disparities and their equilibrium effects on credit markets using Experian and U.S. Census data
- Optimize big data processing reducing build times from days to hours and storage from 4TB to under 1TB

Amazon Web Services – AWS SimTech   May 2022 - August 2022

Software Development Engineer I Intern
- Automated metric aggregation from AWS Cloudwatch to comment on tickets cut to the team
- Built APIs for end-to-end tracking of failed simulation jobs

Amazon Web Services – AWS Robotics   June 2021 - August 2021

Software Development Engineer I Intern
- Developed a full-stack internal developer dashboard to monitor AWS RoboMaker resources (React, Java)
- Streamlined error tracking process to decrease downtime and save developer time

Washington University – Department of Computer Science   January 2020 - December 2022

Teaching assistant for Intro to Machine Learning, Intro to AI, Data Structures and Algorithms
- Led weekly studio sessions with groups of 3-5 students to review concepts and work on coding problems
- Held evening office hours to answer questions about course topics and review coding assignments

Goff Lab – Johns Hopkins University School of Medicine   May 2020 - August 2022

Machine Learning Research Assistant
- Interfaced with biologists to apply and develop computational tools to enhance their research
- Created and implemented scProject, a Python software package that performs transfer learning on genomic datasets using elastic-net regression
- Prepared a publication: Baraban et al., "Identifying Genewise Differences in Latent Space Projections Across Model Systems in Single Cell Data"
- Prototyped a locality-sensitive hashing algorithm for clustering large single-cell datasets

LINKZ Education LLC   June 2020 - August 2022

Academic Specialist
- Tutored students with learning differences one-on-one in high school and college math
- Crafted personalized solutions with a team of educators tailored to each student

- Interfaced with parents to clarify goals and expectations

Johns Hopkins Drug Discovery   May 2018 - August 2018
Chiral Synthesis Intern
- Synthesized small chiral organic molecules with pharmaceutical potential
- Presented to the Drug Discovery unit about chiral molecules relevant to Alzheimer's research

Projects

Rapid Prototyping and Development (CSE 330) - Financial Portfolio Tracking Website
- Utilized MySQL to store users' portfolios to track performance
- Queried the IEX Cloud API to retrieve real-time and historical market data
- Created a full-stack website using Node.js, Express, and React

Skills

Java, Python, Stata, R, scikit-learn, HTML, CSS, SQL, JavaScript, Node.js, TypeScript, React, AWS, Hebrew (intermediate), Mockito, Junit Testing

Security Clearance

Special Sworn Status for restricted data use at Census