Arunabh A. Sarkar

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EDUCATION

Cornell University | Master of Engineering in Systems Engineering — Graduated May 2024

- Relevant Coursework: Quantitative Finance, Risk Simulation & Monte Carlo Methods, Portfolio Management, Systems Optimization

Cornell University | Bachelor of Science in Data Science — Graduated December 2023

- Relevant Coursework: Operations Research & Machine Learning, Data Mining, OOP & Data Structures, Discrete Mathematics

EXPERIENCE

Incoming Analyst — Start Date: August 2024

ATLAS SP Partners | New York, NY

Quant Finance Systems Engineer — August 2023 - May 2024

Jahani and Associates LLC | Ithaca, NY

- Developed a **~60 page report** detailing systems development for a financial data solutions platform focused on private debt markets.

CEO and Co-Founder — March 2023 - March 2024

Fork | Ithaca, NY

- Built an AI-enabled peer-to-peer mobile payment platform, leveraging OCR and NFC payment to help users split dining bills faster.
- Developed a fully functional UI using React Native with **20+ dynamic components** for iOS, Android, and web deployment.

Head Teaching Assistant — January 2023 - May 2024

Cornell Bowers College of Computing and Information Science | Ithaca, NY

- Assist professors in teaching **350+ students** about statistics and data science by leading recitation, grading, and holding office hours.

Summer Analyst — June 2023 - August 2023

Citigroup | New York, NY

- Generated a risk report, on a weekly basis, highlighting **14 key metrics** on financials, wholesale credit risk for clients, regulatory concerns, and portfolio risk exposure, to be delivered to the Chief Risk Officer and Chief Operating Officer of Citigroup.

NLP and Computer Vision Research Assistant — August 2022 - May 2023

Cornell Dyson School of Applied Economics and Management | Ithaca, NY

- Research listing quality of **8MM+ e-commerce products** using using PyTorch, TensorFlow, and image classification on embeddings.

Summer Analyst — June 2022 - August 2022

Galaxy Investment Partners | New York, NY

- Built an analytics application in Python for Galaxy Trading, identifying **13 metrics**, including arbitrage profits, transaction loss, etc.
- Wrote **3 technical reports** for Galaxy Research investigating; the evolution of derivatives in DeFi and theoretical derivatives products, **4 activation risks** associated with the Ethereum Merge, and the mathematics underlying Zero-Knowledge Proofs (ZKPs).

Adjunct Debate Instructor — June 2020 - September 2021

Rowland Hall-St. Marks School | Salt Lake City, UT

- Coached students on foreign policy topics, resulting in student placement among the **top 3 percent** of debaters in the world.

PROJECTS

Bill and Melinda Gates Portfolio Management: Hybrid Equities-Options Trading — November 2023 - December 2023

CHEME 5660: Quantitative Finance for Scientists and Engineers | Julia

- Created a Q-learning/SARSA trade management agent, **beating $SPY returns 1.5x** using covered calls and reinforced reallocation.

Sentiment Analysis: Predicting Financial Indicators in Digital Asset Markets — September 2022 - December 2022

INFO 2950: Introduction to Data Science | Python, SQL, Microsoft Office (Excel)

- Predicted **3 financial indicators** using Twitter data, machine learning, and the TF-IDF vectorizer with statistically significant results.

Mine and Wine: Predicting Wine Quality from Physical and Chemical Properties — November 2022 - December 2022

STSCI 4740: Data Mining and Machine Learning | R, Microsoft Office (Excel)

- Predicted white and red wine quality with **~90% accuracy** using local regression, KNN, LOESS, decision trees, and PCA/PCR.

Hospital for Animals: Urgent Care Dimensional Model — October 2022 - December 2022

INFO 4555: Business Intelligence Systems | SQL, Wherescape, Tableau, PowerBI, Microsoft Office (Powerpoint)

- Built a dimensional data model to generate and visualize **15+ indicators**, including staffing stress points, invoice forecasting, surge case timing, and demographic data, helping the Cornell College of Veterinary Medicine create a new urgent care division.

Breaking Down the Grandmaster's Strategy: An Analysis of the Game of Chess — March 2022 - May 2022

ORIE 3120: Practical Tools for Operations Research, Machine Learning, and Data Science | Python, SQL, Tableau

- Predicted chess match outcome by analyzing a dataset of **20,000 chess games** using regression techniques with **~70% accuracy**.

SKILLS AND HOBBIES

Python | SQL | Julia | JavaScript/TypeScript | R | HTML/CSS | Tableau| Figma | Microsoft Office | PowerBI | Public Speech | DJing