

Aditya Ashok Sinha

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Summary

I am a hardworking and diligent student looking for an opportunity to grow my skills in Quantitative Research/Trading, Software Engineering, and Corporate Finance.

Education

Bachelors of Science in Mathematics, University of Michigan Date 08-2022 - Date 04-2025

Concentration: Mathematics of Finance and Risk Management

Relevant Math Coursework: MATH423 (Mathematics of Finance), MATH474 (Stochastic Analysis), MATH525 (Probability Theory), MATH526 (Discrete State Stochastic Processes), MATH 628/629 (Machine Learning for Finance I&II)

Bachelors of Science in Computer Science, University of Michigan Date 08-2022 - Date 04-2025

Relevant Computer Science Coursework: EECS281 (Data Structures and Algorithms), EECS370 (Intro to Computer Organization), EECS376 (Foundations of Computer Science), EECS485 (Web Systems), CSE572 (Randomness in Computation)

Bachelors of Science in Data Science, University of Michigan Date 08-2022 - Date 04-2025

Relevant Data Science Coursework: STATS426 (Theoretical Statistics), EECS445 (Intro to Machine Learning), MATH525 (Probability Theory), MATH526 (Discrete State Stochastic Processes)

Skills

Code: C++, C, Python, Matlab, Javascript, Java, SQL, R, HTML, CSS, PyTorch, TensorFlow, NumPy, Pandas, Linux(Arch)

Math: Probability Theory, Combinatorics, Stochastic Calculus, Differential Equations, Statistics, Options Pricing Theory

Activities

Michigan Data Science Team, Project Lead for Pokerbots Date 08-2023 - Present

Leading a team of 25 individuals in building Pokerbots using Counterfactual Regret Minimization (CFR). The project integrates key concepts from game theory, probability theory, dynamic programming, and strategy. I focus on teaching game theory and probability theory, leveraging my expertise in these areas, while overseeing all aspects of the project. The bots are developed in Python using object-oriented programming, providing hands-on experience in optimizing decisions under imperfect information—skills applicable across various professional domains.

MHacks 24, Project: Dynamic Load Balancing for Energy-Efficient Cloud Computing Date 09-2024

Developed a model that optimizes server load distribution based on renewable energy availability at different locations, leveraging weather data and power grid information. Implemented an LSTM in TensorFlow for time-series analysis and used a k-server heuristic for load balancing. The solution integrates APIs from the US Energy Information Administration and Open-Meteo, and features a Python-Streamlit frontend for real-time testing and interaction which won 1st prize.

Skills Acquired: k-server optimization, Data processing (pandas, JSON), Time-series modeling (TensorFlow), API integration

Link: devpost.com/software/dynamic-load-balancing-for-energy-efficient-cloud-computing

ClimateHack.AI 2023 Date 12-2023 - Date 4-2024

Competed in an international ML/AI competition hosted at Harvard University by Open Climate Fix. Developed a 3D CNN model to predict solar power production at specific solar sites with high accuracy and efficiency. The model was trained using satellite imagery, energy production data, and aerosol levels across different altitudes.

Skills Acquired: PyTorch, Pandas, HuggingFace, Zarr, Parquet, 2D & 3D convolution

Citi Corporate Banking Case Contest, First Place Date 3-2023

Developed a comprehensive acquisition strategy for a Citibank client, including company valuation, acquisition cost modeling, synergy projections, and long-term post-merger strategies. Presented the proposal to a panel of senior Citibank officials and secured first place.

Skills Acquired: M&A Forecasting, Financial Modeling, Company Valuation, Corporate Banking, MS Excel, MS PowerPoint.

Experience

Math Specialist, Outlier AI — Remote 05/2024 - 08/2024

- Assisted in training AI models to solve mathematical equations.
- Evaluated solutions based on accuracy, clarity, and readability, providing feedback for improvements.

Technical Support Specialist, Healing Conversations LLC — Henderson, NV 12/2019 - 08/2022

- Facilitated the transition of the in-person mental health business to an online platform during the pandemic, ensuring compliance with emerging HIPAA protocols for virtual healthcare.
- Managed the setup of computers, microphones, cameras, software, and financial platforms.
- Currently oversee system maintenance, financial services, and the website, which I designed and built.

Inventory Manager, Goodie Two Shoes Foundation — Las Vegas, NV 07/2022 - 08/2022

- Managed inventory intake and warehouse operations, organizing and labeling stock for efficient distribution to children.
- "Adi assisted us with every facet of our nonprofit warehouse operations, including end-of-fiscal-year counting, new school year preparations, inventory intake, sorting, and storage." – Nikki Berti (Supervisor).