MOHAMMAD ISLAM

+1 (908) 764-7423 ◇ Elizabeth, NJ

mai54@cornell.edu ◇ LinkedIn ◇ GitHub ◇ www.mohammadaislam.com

EDUCATION

Cornell University, College of Engineering **Expected May 2025**
B.S. Computer Science, Operations Research and Information Engineering
Relevant Coursework: Data Structures, Machine Learning, AI Practicum, Computer Systems, Functional Programming, Object Oriented Programming, Optimization, Practical Data Science and ML, Computing with Python, Analysis of Algorithms

SKILLS

Languages Java, Python, JavaScript, TypeScript, OCaml, C, HTML/CSS, SQL, Swift iOS
Technologies React.js, Node.js, Express.js, AngularJS, MongoDB, AWS EC2, MySQL, Tableau, Git, Linux

PROFESSIONAL EXPERIENCE

Full Stack Developer Sep 2023 - Present
Hack4Impact *Ithaca, NY*

- Spearheaded the development of a dynamic frontend visualization map, benefiting **2.5 million people** in Lima, Peru disconnected from water grids by enabling real-time region display with integrated filtered analysis markers.
- Orchestrated the implementation of an admin login component using **Firebase**, which included a reCAPTCHA for added security, ensuring exclusive access for Clean the World members with admin rights.
- Utilizing the MERN (MongoDB, Express.js, React, Node.js) stack, agile and test-driven development methodologies to create a scalable platform, accommodating the growing demand for accessible clean water data

Machine Learning Researcher Apr 2023 - Present
Cornell Tech *New York, NY*

- Curated a robust dataset by scraping carbon emission and feature data for **130+ Apple products** spanning a 5 year period from credible web sources in preparation for machine learning research.
- Enhanced and expanded on the architectural carbon model proposed by Udit Gupta, utilizing PyTorch to develop an optimized linear regression model using stochastic gradient descent, analyzing weights, p-values, and residuals graphs in Apple production footprints.
- Collaborated with the S4AI Lab Group of **8 researchers**, fine-tuning the model to increase its accuracy, documenting the process, and communicating methods to facilitate data-driven sustainable product designs.

Software Engineer Intern May 2023 - Aug 2023
Berkeley Pharma Tech *Remote*

- Leveraged HTML/CSS in resolving and debugging critical website bugs, resulting in an **80% reduction** in user-reported issues and enhancing overall application performance.
- Designed front-end of third party project site using React Native with a partner, successfully integrating Metamask into the web3 application using hardhat node, leading to a **150% increase** in user adoption to facilitate secure cryptocurrency transaction functionality.
- Administered royalty redirection system for NFT trades, generating incoming **$150K+ revenue** and 10% royalties, contributing to substantial business growth.

Development Intern Jun 2022 - Aug 2022
Novartis AG *East Hanover, NJ*

- Pioneered SQL transparency improvements, logging qualification assessments and creating systematic red flag identifications for **150+ vendors**.
- Implemented automated data infrastructure using JavaScript and VBA for governance plans that require yearly revisions, eliminating need for manual email reminders and ensured seamless renewals and compliance.
- Transformed vendor data processing, delivered a **30% speed improvement** for business continuity decisions through a cutting edge metrics dashboard, aided by department data scientist.

PROJECTS

J.A.M.E. Street Built a high-performance brokerage simulation application with 2000+ lines of OCaml and Unix shell scripting. Integrated polygon.io API to ensure accurate real-time stock and options data, resulting in a 99% data accuracy rate and enhancing the realism of the simulation with under **200ms response time**.

Breaking 8.91% Developed robust Python program leveraging NumPy, PyTorch, Pandas, and Matplotlib to quantitatively analyze stock data from MongoDB. Explores random ticker investments in comparison to S&P500 benchmark.

74% Profitable Trading Algorithm Implemented an automated trading algorithm utilizing PineScript, resulting in 74% profitability margins. Executed risk management and adaptive strategies for **$25,000 or 400%** in dynamic portfolio gains.