Ashika Verma

ashikaverma.com

ashikav2000@gmail.com

(979) 492-9820

EDUCATION

- **Massachusetts Institute of Technology** — Cambridge, MA
  M.Eng. in Computer Science; GPA: 5.0; B.S. in Computer Science; GPA: 4.9 — Aug. 2018 – Sep. 2022

EXPERIENCE

- **Citadel Securities** — New York, NY
  Software Engineer — Sep. 2022 - Present
  - Spearheaded the development of the UI for a pivotal PNL Aggregation / Fusing Platform using React, Typescript, and q/kdb, collaborating closely with backend engineers and traders to ensure seamless functionality. This pivotal component played a crucial role in the company's strategic initiative to centralize trading functions, effectively controlling fusing at the company.
  - Orchestrated a comprehensive overhaul of the Capital Monitoring Tool infrastructure. Replaced a Node.js backend with an in-house kdb database streaming solution, significantly boosting performance and reducing deployment time. Streamlined workflow through the implementation of Python endpoints, including risk calculation functionalities for scenario analysis.
  - Played a key role in the transformation of the Capital Monitoring Tool, leveraging the company's provided solution to enhance the user experience by modularizing the UI and implementing a dynamic React-based panel system.
  - Managed the backend of the company's developer-focused Gen AI tool, utilizing Python and Tornado. Facilitated the onboarding of 400 developers who utilize the tool for inquiries, showcasing its value in streamlining developer workflows.

- **MIT Quest for Intelligence** — Cambridge, MA
  Student Researcher — Jun. 2021 - Sep. 2022
  - Conducted a project to assess the robustness of image face recognition neural networks compared to human performance. Developed a clustering algorithm that utilized the feature vectors generated by the networks to determine face recognition accuracy.
  - Designed and implemented experiments involving hue shifts and varying levels of blur as degradation techniques to evaluate the performance of the neural networks. Expanded knowledge of deep learning models, particularly ResNet, through practical application and experimentation during the project.

- **Kensho** — Cambridge, MA
  Software Engineering Intern — Jun. 2021 - Aug. 2021
  - Led the implementation and design of new features on multiple public-facing websites, employing Node.js, Gatsby, React, TypeScript, and Emotion.
  - Collaborated closely with a data science team to design a custom finance NLP model application using Figma. Translated the design into a seamless and intuitive user interface leveraging the React framework.

- **WP Engine** — Austin, TX
  Software Engineering Intern — Jun. 2020 - Aug. 2020
  - Made significant contributions to the development and implementation of a suite of tools using Go, Docker, Kubernetes, GCP, Terraform, and Jenkins. Collaborated with the team to build and refine a Node application builder, API server, and CLI tool.

PROJECTS

- **Teensy U2F Security Key**: Developed a Teensy U2F Security Key in C++ that fully adheres to the FIDO2 U2F Protocol. Utilized a Teensy 3.2 microcontroller to design and implement the key, ensuring compatibility and successful integration with WebAuthn.
- **Security of CAT-SOOP**: Conducted a comprehensive security analysis of CAT-SOOP, the grading website for one of MIT's largest classes. Leveraged Python and BurpSuite to identify and exploit security vulnerabilities, resulting in the discovery of sensitive student data, gaining instructor permissions, and uncovering methods to effectively shut down the website server.

PROGRAMMING SKILLS

- **Languages**: TypeScript, Python, C++, Go, q