

# Alex L. Yu

(571) 432-7849 | alexlyu5.ay@gmail.com | [GitHub](#) | [Website](#)

## EDUCATION

**University of Virginia, Charlottesville, VA**

*B.A. Computer Science with Double Major in Commerce*

*Aug. 2020 – May. 2024*

GPA: 3.93

**Thomas Jefferson High School for Science and Technology, Alexandria, VA**

*High School Diploma*

*May 2020*

GPA: 4.49

## WORK EXPERIENCE

**Capital One, Associate Software Engineer**

McLean, VA | *Aug. 2024 – Present*

- Managed infrastructure for the platform and deployment pipeline supporting API and business logic for Consumer Identity.
- Orchestrated the transition of 30+ organization repositories to a new deployment workflow using Python scripts, eliminating several hundred hours of manual developer toil across 10 engineering teams.
- Spearheaded the development of the ETL Lambda based job for a new service to help drastically reduce deployment time of new configurations of Consumer Identity workflow logic.
- Developing a centralized tool to gather and archive information after a high severity incident, as a part of the Operational Excellence and Reliability division.
- Tool supports collaborative document editing up to 100s of concurrent users using a Lambda API and Yjs web-socket server running on ECS Fargate.

**Capital One, Software Engineering Intern**

McLean, VA | *Jun. 2023 – Aug. 2023*

- Architected and created an internal slack application aiding nearly 400 performing data stewards to better perform metadata checks/updates and easily view dataset metrics and tasks in the application dashboard.
- Refactored a metrics dashboard to scan 1000+ datasets that were uncompliant with enterprise data policies using backend APIs and integrated an AI assistant chatbot using Tensorflow and other Python NLP libraries.
- Utilized AWS ECS Fargate, S3, IAM, and implemented DevOps best practices for scalability and efficiency.

**Yext, Software Engineering Intern**

Washington D.C. | *May 2022 – Aug. 2022*

- Designed, bug fixed, and implemented search analytics on store locator pages using HTML, CSS and Javascript for notable companies/brands such as Sanrio Ltd., JD Sports, and Dunkin'.

## PROJECTS

**Comprehend, AI-powered application for natural language querying of APIs**

*Nov. 2025 – Dec. 2025*

- Built a full-stack application, using a GraphQL API and LLM, to enable users to ask questions about external APIs and integration usecases
- Created a custom RAG pipeline (embedding schemas, vector search, and orchestrating LLM prompts) to generate accurate and context-aware responses.

**BoltId, “Proof-Of-Personhood” token identity platform**

*Jun. 2025 – Jul. 2025*

- Built a full-stack identity verification platform for Bolt.new’s hackathon using Supabase for user auth, AWS Rekognition for biometric validation, and Algorand to issue and store tamper-proof identity tokens on the blockchain.
- Engineered a seamless onboarding flow using facial recognition, with a Node.js API and Vite.js frontend

**Algorithmic Trading Solution on Kalshi**

*Dec. 2024 – Mar. 2025*

- Engineered an algorithmic trading strategy leveraging option market data from crypto exchanges. Estimated fair value and probability density using univariate splines, while warehousing data in Amazon S3.
- Optimized execution speed with Python multithreading and deployed a Flask-based backend with scheduled jobs, with plans to transition to an event-driven architecture using Amazon SQS.
- Automated data polling with cron jobs, sending real-time email alerts and entering trading opportunities.

## ADDITIONAL INFORMATION

**Languages and Technologies:** Python, Java, Javascript, Typescript, HTML, SQL, CSS, React, Git, Jenkins, AWS

**Certifications:** AWS Solutions Architect - Associate (*Feb. 2025*)