Eli Boyden

540-233-2120 | eliboyden2027@outlook.com | LINKEDIN | GITHUB

Education

University of Virginia, School of Engineering and Applied Science August 2023 – May 2027

Bachelor of Science in Computer Science, Data Science Minor

- Relevant Coursework: Data Structures, Algorithms, Software Development Essentials, Computer Systems Architecture, Software Engineering, Cybersecurity

Bachelor of Arts in Mathematics, Concentration in Probability and Statistics

- Relevant Coursework: Probability, Linear Algebra, Differential Equations, Real Analysis, Complex Analysis

Cumulative GPA: 3.947/4.00

Experience

Software Engineer Intern August 2025 – December 2025

City of Charlottesville Department of IT *Charlottesville, VA*

- Integrated instant alert pushing with Microsoft Teams for governmental departments, allowing for faster notifications among professional groups.
- Automated collection, processing and analysis of API and RSS feed data on critical events in Charlottesville using specialized Python AWS Lambda serverless functions.

Full Stack Software Engineer Intern May 2025 – August 2025

YSTEM and Chess *Remote*

- Wrote and maintained automated unit and integration tests using Jest, reducing React front-end production bugs and increasing development team test coverage by over 60%.
- Lead accessibility improvements across React components, increasing compliance with WCAG standards, and improving usability for screen readers, keyboard navigation, and users with visual impairments.

Application Software Developer May 2025

Mathesis Technology *Hybrid Charlottesville, VA*

- Launched secure departmental course sites using JavaScript, HTML, CSS and improved access while reducing manual workload for faculty.
- Adapted, deployed and maintained TypeScript static site generator serving 150+ students per semester.
- Integrated Cloudflare authentication into custom-built educational platforms, enabling secure student logins while reducing security errors and unauthorized access.

Projects

TAGuide | *PostgreSQL, Python, Encryption (bcrypt, Fernet), Flask, React*

- Full-stack encrypted React application for running Selenium web scraping jobs to automate data collection from Gradescope, enabling tracking and visualization of Teaching Assistant (TA) grading progress.
- Helped identify and subsequently correct grading work imbalances of up to 25%.

Artificial Neural Network | *Java, JUnit, Git*

- Achieved 97% accuracy on MNIST handwritten digit dataset classification and 91% on heart attack prediction by optimizing matrix operations and refining model architecture.
- Validated and tested implementations with custom unit tests using JUnit, ensuring model stability and correctness through structured experimentation.

Skills

Programming Languages: Python, Java, JavaScript, TypeScript, C, SQL, HTML, CSS, SCSS (Sass)
Frameworks & Libraries: React.js, Node.js, Express.js, Flask, Jest, JUnit, JPA, Selenium, Gradle, Django
Tools & Platforms: Git, AWS, Cloudflare Pages, Cloudflare Access, Obsidian, Quartz, Make
Concepts & Methodologies: Object-Oriented Programming (OOP), Agile Development, Scrum, Unit Testing, Accessibility Compliance, RESTful APIs, CI/CD Basics, Machine Learning (Neural Networks)
Databases: PostgreSQL, MongoDB, SQLite, Supabase

Certifications

AWS: Certified Cloud Practitioner CLF-C02 | Certification
Scrimba: Advanced React | Certification