Aidan Melvin

aidmelvin.314@gmail.com | 267-273-6421 | https://aidmelvin.github.io/personal-website/

EDUCATION

University of Maryland, College Park *Expected Graduation: May 2025, GPA: 4.0*

- B.S., Computer Science (Machine Learning), B.S., Economics
- *Banneker-Key Scholar* (full-ride merit scholarship, granted to <0.5% of admitted students).
- *Advanced Cybersecurity Experience for Students* (ACES) Honors Living-Learning Program.

Coursework: Computer Systems, Algorithms, Compilers, Applied Cybersecurity, Object Oriented Programing II

TECHNICAL SKILLS

Languages: Python, Java, TypeScript, MERN stack, Ruby, OCaml, HTML/CSS, R, Bash, C/C++, SQL
Tools/Frameworks: Linux, Git, sklearn, TeamCity, Agile Method, Maven, JUnit, Jest, TensorFlow, Octave, SDLC

WORK EXPERIENCE

Software Engineering Intern, PayPal *May 2022 - August 2022, May 2023 - Present*

- Created automated release notes generation for code bases, saving 40 hours of developer time per regulatory audit.
- Improved visibility and tracking of application releases across CI/CD pipelines in TeamCity and Octopus Deploy.
- Used Terraform to automate creation of Octopus Deploy configurations for applications across several teams.
- Used JetBrains' TeamCity to create CI/CD flows for team members' PayPal Credit SOR code.
- Contributed to full-fledged unit and integration test suites using JUnit and Confluence documentation.
- Utilized IntelliJ's debugger, pgAdmin, Postman, and Git to assist in development and functionality verification.

Software Engineering Intern, Capital One *February 2022 - April 2022*

- Bolstered an in-house federated learning project by creating and testing Django database schemas.
- Created React unit testing suite for the entire project, achieved at least 80% coverage for all components.
- Presented my work on the project to 8 high-level Capital One senior directors.

Software Engineering Intern, Praxis Engineering *May 2021 - August 2021*

- Designed a script that enables military personnel to troubleshoot of AWS Linux networks and sensors aggregating geolocation, status, and audio data, as well as parse and analyze network statistics.
- The script parsed more than 100KB/s of XML data into an easy-to-read terminal dashboard output as well as more detailed CSV output for later analysis.

ACTIVITIES AND LEADERSHIP

App Dev Club Founder & President *June 2022 - Present*

- Teaching 160 students mobile app development technologies including React Native, Flutter, and backend
- Creating solution prototypes for corporate sponsors including Leidos, Praxis Engineering, and others.

PROJECTS

U.S. Cybersecurity Attack Surface Research *January 2023 – May 2023*

- Discovered significant relations between socio-economic factors and attack surface vulnerability of a U.S. county.
- Used U.S. Census, Shodan, and Censys data with Python regression/ML tools to carry out research.

RackJS: Racket to JavaScript Compiler *April 2023 – May 2023*

- Developed a compiler to convert a Racket program into a semantically equivalent JavaScript program.
- Created the ability to express multiple data types, operations, conditionals, lambdas, closures, and functions.

Northrop Grumman Innovation Week Hackathon *March 2023*

- Won top 3 out of 12+ teams for developing a search engine to facilitate searching and vetting of startups.
- Used Flask, BeautifulSoup, TF-IDF, and MongoDB to allow searches of over 20,000 companies in under 3 seconds.

Honeypot Cybersecurity Research Project *September 2022 – December 2022*

- Throughout an entire semester, developed honeypot infrastructure using LXC, iptables, MITM, Key Loggers and Python scripts to aggregate and analyze data regarding common cybersecurity threat actor behaviors.