Aakash Kalmady

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EDUCATION

University of Maryland College Park, MD
Bachelor of Science in Computer Science *Expected Graduation, May 2026*

- **GPA:** 3.7/4.0, 2x Dean's List
- **Related Coursework:** Data Structures and Algorithms (Java), Object Oriented Programming I & II (OOP), Discrete Mathematics, Computer Systems (C, x86-64 Assembly), Linear Algebra (MATLAB), Applied Statistics and Probability (R), Multivariable Calculus (MATLAB)

EXPERIENCE

Software Engineer | *Next.js, Tailwind CSS, Figma, PostgreSQL, Express.js, React-PDF* Sep. 2024 – Dec. 2024
UMD App Development Club *College Park, MD*

- Engineered a web app in a team for client **Booz Allen Hamilton**, automating the audit process for Medicaid and CHIP claims, reducing manual effort for policy specialists by around 12 hours and saving an estimated $30,000 for Booz Allen
- Designed the UI in Figma and developed the front-end with Next.js, Tailwind CSS, and React-PDF, enabling users to upload, compare, annotate, and display summaries and keywords for each policy
- Helped tune BART and Gliner ML models for text summaries and an OCR pipeline in OpenCV for extracting policy data
- Storing policy data in a PostgreSQL database with Express.js

Climate Researcher tinyurl.com/sstanalysis | *Python, Linux* Jan. 2024 – Dec. 2024
First-Year Innovation and Research Experience (FIRE) *College Park, MD*

- Analyzed the impacts of sea surface temperature (SST) on the intensity of hurricanes
- Managed gigabytes of hurricane data on a remote Derecho HPC supercomputer through the command line
- Simulated Hurricane Ida as if it occurred during the summers of 1950 and 2023 using the Weather Research and Forecasting model (WRF) to generate climate data
- Processed hurricane data plots using python scripting (concatenation, averaging, and plotting) to analyze large-scale differences and interpret weather patterns
- Documented research findings in a detailed summary and presented them on a poster at the FIRE Summit

PROJECTS

Maryland Dhoom Website | *Next.js, Tailwind CSS, TypeScript, Node.js* Jan. 2025 – Present

- Engineering a responsive website with Next.js and Tailwind CSS to optimize outreach for the Maryland Dhoom dance team
- Working directly with the team captains to ensure UI/UX practices are tailored to their liking
- Enabling member authentication for updating personas on the "meet the team" section and for captains to edit main content

Personal Website aakashkalmady.dev | *HTML/CSS, JavaScript, Figma, Git* June 2024 – Sep. 2024

- Designed and developed personal website with Figma, HTML, CSS, and JavaScript to showcase my professional work, skills, and hobbies
- Engineered a responsive design for viewing across different devices and 5 web browsers
- Managed content including photos, videos, portfolio work, socials, and a contact form

Over-Terrain Vehicle (OTV) | *C++, ML, Arduino IDE* Aug. 2023 – Dec. 2023

- Designed an OTV in AutoCAD by developing 3 full design iterations and 3D printing and laser cutting 15 custom parts
- Developed C++ software and navigation algorithms for control of robotic hardware with an Arduino
- Fine-tuned a machine learning (ML) model to map the mission site topography using a digital vision system
- Engineered control algorithms with GPS and ultrasonic sensors to complete tasks more efficiently

VEX Robotics github.com/aakash-kalmady/SpinUp-81Y | *C++, V5 PROS API* Sep. 2021– May 2023

- Developed C++ software and navigation algorithms for control of robotic hardware using the V5 PROS API
- Engineered ML algorithms using 10 sensors (encoders, ultrasonic, and inertial) to learn information about the field
- Tuned control algorithms by finding optimal settings in Excel for 50% more precision within a 1% error margin
- Documented team's results in a 500+ page document to showcase our design process and project management
- Awarded the design award at the world championship (2023, Dallas, TX), national champions at the CREATE U.S. Open Championship (2023, Council Bluffs, IA), and top 5 in the world for programming skills (2022, Dallas, TX)

SKILLS

Languages: Java, Python, C/C++, JavaScript, TypeScript, SQL (Postgres), x86-64 Assembly, HTML/CSS, MATLAB
Frameworks: React.js, Next.js, Node.js, Express.js
Developer Tools: Vim, Unix, Eclipse, Visual Studio Code, Figma, Git, GitHub, Valgrind, GDB Debugger, AutoCAD
General: Teamwork, Leadership, Collaborative, Analytical, Accountable, Performance Driven, Eager to Learn