Kevin Ma

US Citizen | 341-500-1098 | kevinma0421@gmail.com | github.com/kevinma0421 | kevinma0421.github.io/

Education

Purdue University Aug. 2021 – May 2025
B.S. Computer Science *West Lafayette, Indiana*
Coursework: Operating Systems, Embedded Systems, Computer Architecture, Algorithms, Artificial Intelligence

Skills

Languages: C, C++, C#, MATLAB, Java, JavaScript, Python, SQL, TypeScript
Web Technologies: CSS, HTML, Angular, React, Node.js, Flask, Express.js, Tailwind
Tools: Agile, AWS, Azure, Docker, Git, Kubernetes, Jira

Experience

Sensitech May 2024 – Aug. 2024
Software Engineer Intern

- Leveraged NumPy and Pandas to automate FedEx tracking data retrieval and streamline label creation processes, boosting production efficiency by 20% compared to previous manual methods.
- Integrated UPS API for shipment tracking and data management, improving timeliness of logistical operations.
- Reduced load times for real-time data updates on Sensitech's flagship platform with Angular by 5%.
- Collaborated with Scrum teams using Agile methodology via Jira, ensuring streamlined feature development.

Purdue Space Program - Spaceport America Aug. 2023 – Present
Avionics and Recovery Lead

- Led a team of 10+ in embedded systems development of a flight computer system.
- Directed the development of a web-application based ground station using React, Flask, Tailwind and websockets.
- Mentored team members in C programming, embedded systems, and GitHub usage.
- Implemented CI/CD pipelines using Github Actions, incorporating linting tools and unit tests to enhance code quality and streamline deployment processes.

Projects

Rocket Flight Computer | *C, STM32, FreeRTOS, CMake, Ninja*

- Developed a high-performance flight computer system using STM32 microcontrollers.
- Implemented GPS, accelerometer, and barometers with UART, I2C, and SPI communication protocols.
- Integrated a Real-Time Operating System (FreeRTOS) alongside HAL, enabling real-time task scheduling for concurrent sensor data acquisition, communication, and logging, reducing data latency by 30%.
- Utilized CMake, and Ninja to manage build configurations and cross-compilation.

Rocket Airbrake System | *C, STM32, CMake, Ninja*

- Developed a dragster parachute deployment system for real-time rocket deceleration control.
- Created a slave device with an SPI handshake protocol to interface with an open-source rocketry flight computer (AltusMetrum), achieving accurate telemetry data acquisition and control feedback.

Unix Shell | *C, C++*

- Developed a Unix shell in C and C++ with features such as piping, redirection, job control, and signal handling.
- Implemented lexical analysis using Lex and grammar parsing with Yacc to handle complex command execution.

Graded Pokémon Website | *Express.js, JavaScript, React, Tailwind*

- Developed a graded Pokémon card data aggregator using Puppeteer, Express.js, and React.
- Integrated historical data graphs and price listings using Chart.js to aid user decision-making on card valuations.

Avionics Website | *AWS, Docker, Kubernetes, Next.js, MUI, TypeScript*

- Built an Single Page Application (SPA) Next.js website for PSP Spaceport Avionics, boosting team visibility.
- Utilized Docker for containerization, with AWS ECR for image storage and EKS for deployment orchestration.