Kevin Chen

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EDUCATION

Rochester Institute of Technology Rochester, NY

Bachelor of Science in Software Engineering *Expected May 2027*

- **Cumulative GPA: 3.18**
- **Dean's List: Spring 2023, Spring 2025**
- **Relevant Courses:** Eng Cloud Software Systems, Software Testing, Engineering of Enterprise Software Systems, Engineering of Software Subsystems (Embedded), Software Process & Project Management, Web Engineering, Software Development and Problem Solving 1 & 2 (Python, Java, Git)

TECHNICAL SKILLS

Programming Languages: Java, Python, JavaScript, TypeScript, C, C++, C Sharp, SQL, Bash.
Web Technologies: HTML, CSS, React.js, Next.js, Node.js, Express.js, .NET, REST APIs, OAuth 2.0.
Databases: MongoDB, PostgreSQL, MySQL.
Dev Tools: Git, VS Code, Linux/Unix, Postman, cURL, Vim, Docker, Jest, Unix/Linux.
Other Technologies: Apache HTTP Server, STM32Cube, JSON, XML, Selenium.

PROJECTS

IoT Environmental Monitor | *C, STM32 HAL, I2C, UART, AWS IoT* 2025

- Developed and programmed an embedded environmental monitor on an STM32 Nucleo board to collect sensor data at a 1Hz frequency and display it on a 1602 LCD.
- Authored low-level drivers in C to interface with a DHT22 temperature/humidity sensor via I2C, implementing error handling for bus communication failures.
- Retargeted the `_write` syscall to stream debug logs over UART, reducing debugging time by 50% compared to manual methods.
- Systematically diagnosed and resolved hardware issues, including pin-muxing conflicts and signal integrity problems, using a multimeter and logic analyzer.
- Designed the system architecture to incorporate an ESP32 for future work, planning to use FreeRTOS for task scheduling and MQTT to publish data to AWS IoT Core.

MIDI Player | *C, STM32Cube, Embedded Systems, Git* 2024

- Engineered and programmed a MIDI player on an STM32 Nucleo board, using C to parse MIDI file data structures and generate corresponding audio signals.
- Implemented performance optimization by managing hardware resources, including DMA for efficient data transfer and DAC for precise analog waveform generation, producing clear audio on a piezo buzzer.
- Designed the system to utilize microcontroller peripherals, including USART for file reception, GPIO for button-based UI, and NVIC for interrupt-driven controls (track selection, play/pause).
- Conducted code reviews and debugging sessions to ensure firmware stability and adherence to embedded C best practices.

Enterprise Application Project | *MERN Stack, Recharts, Jest* | *Enterprise Engineering Course Project* 2024

- Collaborated with a team of four to build a full-stack MERN application, including a Node.js/Express.js REST API and a React frontend with data visualization.
- Managed the deployment of the full MERN stack to an Ubuntu server, configuring Apache HTTP Server as a reverse proxy to the Node.js/Express.js backend.

WatchOS Voice Chatbot | *SwiftUI, XCode, Groq API, REST* | *Personal Project* 2024

- Developed a voice-to-voice chatbot on watchOS, integrating with the Groq API for near-real-time AI inference for speech-to-text and text generation.