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#, 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

- Created an embedded environmental monitor on an STM32 Nucleo board to collect real-time sensor data, display it locally, and prepare it for cloud transmission.
- Configured and utilized microcontroller peripherals including GPIO, UART for serial debugging via a retargeted `_write` syscall, and I^2C for external device communication.
- Integrated a DHT22 temperature/humidity sensor and a 1602 LCD by incorporating third-party drivers and wiring the hardware with appropriate pull-up resistors.
- Systematically debugged hardware and software issues, including I^2C bus communication failures and peripheral pin-muxing conflicts, using a multimeter and serial log outputs.
- Designed the cloud architecture for data ingestion and processing, planning for an ESP32 to publish sensor data via MQTT to **AWS IoT Core**, triggering a **Lambda** function to persist time-series data in **Amazon Timestream**.

MIDI Player | *C, STM32Cube, Git*   2024

- Developed a MIDI player using C and a STM32 Nucleo board to parse and play MIDI files.
- Generated and played musical notes on a piezo buzzer from parsed MIDI data.
- Utilized microcontroller peripherals including USART for file transfer, GPIO for button inputs, DAC for audio output, and NVIC for interrupt handling to create a complete embedded audio system.
- Implemented features such as track selection, button control through external interrupts, and playback.

Enterprise Application Project | *MERN Stack (MongoDB, Express.js, React,, Node.js, Recharts)*   2024

- Designed and implemented a full-stack application using the MERN stack, adhering to departmental and corporate requirements.
- Developed and tested a MongoDB-backed RESTful API with Express.js, including endpoints for CRUD operations, database initialization, and unit tests using Jest.
- Created a React-based client application, integrating features such as filtering, adding, editing, and deleting data.
- Deployed the full application on an Ubuntu server with Node.js and MongoDB, ensuring independent functionality for each department's APIs and client apps.
- Collaborated on implementing a consistent corporate theme across all departmental applications with shared landing pages and branding.
- Conducted operations reviews with the professor and had frequent team meetings.
- Added an integrated dashboard with Recharts for data analytics, providing metrics such as employee breakdowns, sales insights, and cost analysis with interactive visualizations.

WatchOS Llama App | *XCode, Groq API*   2024

- Created a watchOS app voice to voice chatbot.
- Used Groq APIs for Whisper v3 Large and Llama 3.1 70B inference.