Ethan Iwama

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EDUCATION

Bachelor of Science in Computer Engineering, Minor in Music **May 2024**
The University of Texas at Dallas
Cumulative GPA: 3.29
Key Courses: Circuits Lab, Computer Architecture, Data Structures, Differential Equations, Digital Circuits, Discrete Time Signals and Systems, Electrical Engineering Fundamentals I & II, Electrical Network Analysis, Electronic Circuits, Electronic Devices, Embedded Systems, Software Engineering, Programming Paradigms

SKILLS

Programming Languages: C++, C#, CSS, HTML, Java, JavaScript, Python
Operating Systems: Linux, UNIX-like systems, Windows
Tools and Frameworks: Docker, Flask, .NET, Node.js, OrCAD PSpice, PostgreSQL, RESTful APIs, React, TensorFlow**,** Verilog, Visual Studio
Development Practices: Agile, Source Control (Git)
Other Proficiencies: Databases, Distributed Systems, ESP32, Microservices, RTOS, Soldering

ACADEMIC PROJECTS

AI/ML Driven RF Pulse Detection | L3 Harris **August 2023 – May 2024**
Skills: Java, Python, TensorFlow, Agile, Embedded Systems

- Collaborated with a cross-functional Agile team to develop a machine learning model for detecting radio frequency pulses, integrating ML with hardware-based signal processing.
- Designed the data pipeline from the signal generator to the ML model, simulating real-world hardware interactions, using Java for system control and data preparation.
- Contributed to code evaluation and optimization processes, ensuring high performance, low latency, and the integrity of the solution.

Iris PostgreSQL Database and ML Image Detector | Personal Project **March 2024**
Skills: PostgreSQL, Python, TensorFlow

- Enhanced skills in PostgreSQL databases and machine learning-based image detection.
- Developed Python-based firmware-like logic to interface between image data and the classification algorithm, focusing on efficiency and accuracy akin to embedded applications.
- Built an image detection model to classify iris flower species, exploring data processing and memory management challenges common in embedded systems.

Instruction Set Architecture Project | Schoolwork **July 2023**
Skills: Python, Assembly, Computer Architecture

- Designed an assembly language for a 16-bit instruction set, emulating hardware interactions to better understand processor functions and instruction-level execution.
- Created an assembler in Python to translate assembly language into machine code, mirroring firmware-level control over hardware.
- Developed a processor simulator to execute the machine code, deepening knowledge of programming language translation and low-level system operations.

Data Logger Implementing RTOS | IEEE **September 2021 – December 2021**
Skills: C++, Embedded Systems, ESP32

- Worked with a team to study and implement a real-time operating system (RTOS) on an ESP32 microcontroller, focusing on low-level peripheral communication and data collection.
- Connected and programmed multiple hardware peripherals to function concurrently within the RTOS, mirroring real-world embedded system challenges.
- Identified and resolved memory management issues, optimizing the firmware and hardware integration to ensure stable data logging performance.

WORK EXPERIENCE

Math Lead Instructor | Mathnasium - KV **September 2021 – May 2024**

- Led instructional efforts in teaching fundamental and advanced math, developing skills in problem-solving, logic, and communication essential for technical roles.
- Coordinated instructor collaboration, fostering teamwork and efficient project management, paralleling the collaborative environment in engineering teams.
- Participated in community volunteering, developing leadership and interpersonal skills critical for fostering innovation and teamwork in technology-driven projects.