Sam Edwards-Marsh

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Professional Experience

SN&N Electronics, Inc. – Software Engineer

Morgan Hill, CA

Jan 2023 – Present

- Faster development using ChatGPT, Claude, Gemini, DeepSeek, e.g. generated interface layer to firmware.
- Reduced hardware test setup time by 50% through custom UI development using Arduino and Tkinter.
- Developed a CLI-based PPM sample analysis tool, enabling 100% faster protoype hardware validation.
- Developed an API for a 3-axis linear stage robot, enabling calibration accuracy to 5µm.
- Accelerated waveform validation workflow by 100% with a custom CLI tool for automated analysis.
- Delivered 5+ proof-of-concept prototypes in a multifunctional team adapting to client requirements.
- Contributed to open source projects for ultrasound technology.
- Improved accessibility by adding audio notifications to a prototype medical device.

University of California Santa Cruz – Machine Learning Research Assistant

Santa Cruz, CA

Mar 2021 – Jan 2022

- Created an ML pipeline using Pandas, scikit-learn, and TensorFlow to analyze time series weather data for leaf wetness and disease propagation, improving analysis efficiency.
- Worked alongside 2+ PhD students on Ag Tech projects to enhance lab outcomes.

Personal Projects

Neural Pitch Polyphonic pitch detection with neural networks that exploit grokking and double-descent phenomena (development phase).

Beatz Buddy App Store Link WatchOS Haptic Metronome. Pre-release beta with 25+ participants.

Neural Synth GitHub Repo A tool to program a software synthesizer to approximately recreate any sound.

VST3 Delay Plug-In GitHub Repo A delay VST3 audio effect to demonstrate understanding of the JUCE framework.

Guess Word Game App Store Link iOS time-based word guessing game.

DL Deforestation Detection deforestationdetector.com Created an ensemble transfer learning network for multi-label classification. Implemented a Docker container for GPU acceleration, reducing training time.

Skills

Languages: Python 3, Java, Swift, Bash, C, C++, TypeScript, JavaScript

Frameworks: Tkinter, SwiftUI, Android, React, JUCE, NumPy, Matplotlib, Pandas, PyTorch, Tensorflow

Tools: ChatGPT, Claude, DeepSeek, Gemini, Git, VSCode, Xcode, Microsoft 365 Office

Soft Skills: Creative Problem Solver, Patient Communicator, Friendly, Collaborative

Education

University of California, Santa Cruz — Bachelor of Science in Computer Science

Santa Cruz, CA

Sep 2019 – Jun 2022