

# Sam Edwards-Marsh

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## Professional Experience

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### 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 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

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**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](http://deforestationdetector.com) Created an ensemble transfer learning network for multi-label classification. Implemented a Docker container for GPU acceleration, reducing training time.

## Skills

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**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

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

Santa Cruz, CA

Sep 2019 – Jun 2022