

Andrew Gordon

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Application Software Engineer

WORK EXPERIENCE

Freelance

San Rafael, CA

Full-Stack Software Engineer

August 2021 – Present

- Develop cross-platform finance applications for two clients on Web, Android, and IOS utilizing Node.js, JavaScript, Flutter, Python, and Google Cloud Platform services such as Firebase, Firestore, and sign-ins.
- Deploy Node.js backends with NoSQL databases storing user data and cached application programming interface (API) calls for stock market quotes, reducing reliance on external services up to 90%.

UCSC-Cisco Sponsored Project

Santa Cruz, CA

Backend Software Engineer

January 2021 – July 2021

- Ensured 100% encrypted communication in a mesh network by implementing key cryptography and adaptive routing with virtual private networks, BGP, Golang, and AWS EC2s (scrum master of the AGILE Team).
- Enabled successful delivery of two releases in six months by composing weekly progress reports and collaborating with a team of network engineers at Cisco (each release generated during five, two-week sprints).

University of California, Santa Cruz

Santa Cruz, CA

Electronic Music Teaching Assistant

January 2020 – March 2020, January 2021 – June 2021

- Provided weekly technical assistance to 25 students working with audio software for music production (Ableton Live, Reaper, FL Studio) and digital signal processing in Max MSP.
- Guided three workshops for sound design via granular synthesis and coding of virtual instruments in Max MSP.

iD Tech

San Francisco, CA

Computer Science Instructor

July 2020 – February 2021

- Developed and taught computer science curriculum for Python, Machine Learning for audio classification, circuitry, and JavaScript to over 50 students in person and over 100 students in online sessions (ages 8 to 19).

Lantern Medical

San Rafael, CA

Software Engineering Intern

May 2020 – December 2020

- Devised C programs for STM micro-processors to retrieve and parse real-time streams of remote distance sensor data (time of flight up to two meters) to enable touchless, gesture-activated devices.

PROJECT AND LEADERSHIP EXPERIENCE

Poly NS Tuner – Polyphonic Pitch and Scale Detection in Python

Santa Cruz, CA

Audio Application Software Engineer

January 2021 – Present

- Designed algorithms for processing .wav files utilizing Fourier transform, windowing, harmonic weighting, and pitch tracking to enable polyphonic pitch (up to five fundamental notes) and scale detection in Python.

GoGuard – Mesh Network Generator – Sponsored Project by Cisco

Santa Cruz, CA

Backend Software Engineer

January 2021 – July 2021

- Increased testing efficiency by 30% with unit tests via virtual networks in Docker, AWS EC2, and Bash scripts.
- Implemented proxying of requests in services, allowed the system to adapt and have a fault tolerance of 99%.

UCSC Soundmap Research Group – Geolocated Ambisonic Recordings

Santa Cruz, CA

Undergraduate Research Engineer and Field Recorder

January 2020 – July 2020

- Launched development of Python scripts for finding 100 optimal recording locations in eight square kilometers.
- Generated and contributed metadata for 25, ten-minute long ambisonic field recordings at 25 unique locations.

EDUCATION

The University of California, Santa Cruz

Santa Cruz, California

Bachelor of Science in Computer Science, Minor in Electronic Music

Graduation Date: June 2021

- Awards/Organizations: **3.8 GPA**, Cum Laude Honors, Dean's Honors List, Club Volleyball President.

SKILLS & INTERESTS

Skills: Python, Java, JavaScript, C, Ableton, Max MSP, Librosa, Tensorflow, Scikit, NumPy, JUCE, VCV Rack, HTML, PostgreSQL, NoSQL, Docker, Git, Node.js, React, Flask, GCP, AWS EC2, Linux, Flutter, Dart, AGILE

Interests: Application Development, Computer Audio Applications, Digital Signal Processing, Data Engineering and Analysis, Machine Learning, Algorithmic Analysis, Sound Design, Music Production, Piano, Volleyball