

Scott Sau

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EDUCATION

Western University

Bachelor of Science – Major in Computer Science

London, ON

Sept 2021 – May 2026

EXPERIENCE

Software Developer

Grand River Imaging & Photographic Society

April 2019 – Aug 2020

Waterloo, ON

- Owned the design and delivery of a Python application that automated the society's annual competition pipeline end-to-end, from parsing raw tabular submissions to generating personalized member reports and distributing them by email.
- Replaced a fully manual process, cutting turnaround time from several hours to minutes and significantly reducing the risk of data entry errors.

PROJECTS

ChordSense | *Kotlin, XML, Android SDK, RevenueCat*

June 2023

- Designed and shipped a native iOS and Android app for music theory education centered around an interactive chord builder and progression sequencer with low-latency audio playback.
- Built the Android version natively in Kotlin, then collaborated to port the full codebase to a native Swift implementation for iOS, maintaining feature parity and a consistent user experience across both platforms.
- Handled monetization end-to-end using RevenueCat, including dynamic paywalls, entitlement management, and reliable purchase restoration on both platforms.

DeckNet.up.railway.app | *Python, FastAPI, Next.js, PostgreSQL, scikit-learn*

April 2026

- Launched a full-stack analytics platform for evaluating game strategies (Clash Royale) with machine learning.
- Engineered a Python data pipeline to scrape and encode data from the game's official API, storing it in a PostgreSQL database to support model training and enable efficient statistical retrieval on the web platform.
- Trained a Multi-Layer Perceptron model on a dataset of over 2.5M+ match records to predict head-to-head win probabilities for different strategies.
- Containerized and deployed the FastAPI backend and Next.js frontend on Railway, integrating Google OAuth for user authentication

simple-midi.com | *React, Vite, WebCodecs, Mido*

February 2026

- Built and deployed a React + Vite client-side web app that converts MIDI files into customizable piano roll visualizations, with support for real-time preview and MP4 export directly in the browser.
- Wrote a custom MIDI parser using Mido paired with a Canvas 2D renderer to preview animations in real time.
- Used the WebCodecs API to encode H.264/AAC video at HD quality entirely client-side, removing the need for any server-side processing.

MIDIsequencer | *Python, Pygame, FluidSynth, Mido*

December 2025

- Developed a MIDI sequencer in Python and Pygame with a multi-track piano roll for composing and arranging music in MIDI format.
- Integrated FluidSynth for real-time audio synthesis with SF2 soundfont support, enabling high-fidelity instrument playback during editing.
- Added support for MIDI import and export using the Mido library, handling conversions between raw MIDI messages and internal note representations
- Implemented low latency hardware MIDI device support, allowing the recording of live performances directly into the sequencer.

TECHNICAL SKILLS

Languages: Kotlin, C, C++, Java, Python, SQL, JavaScript, HTML/CSS, R

Frameworks & Libraries: Android SDK, React, Vite, Next.js, Node.js, FastAPI

Developer Tools: Git, Docker, PostgreSQL, Google Cloud Platform, Railway, Android Studio, Visual Studio Code, JetBrains

AI Coding Assistants & Tools: Claude Code, Gemini