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zeyadsaleh
Canadian Citizen

# Zeyad Saleh

## Education

2013–2018 **McGill University**, *Canada*
B.Eng Computer Engineering
Golden Key Honor Society

## Experience

2021–Current **Apple**, *Senior Software Engineer*
I led media architecture for Apple Intelligence as the tech lead for an 11-person team focused on music and video. I collaborated with over 15 partner teams to design and drive internal adoption of a new developer API that will power the future of Siri, replacing SiriKit. Earlier, I drove a key HomePod update at WWDC 2023, expanding playback from 8 to 100+ third-party apps using intelligent AirPlay from the user's device. This made HomePod more flexible and was featured by Macworld, The Verge, and MacRumors. Building on that, I led the release of personalized app selection, enabling Siri to default to users' preferred music app based on on-device predictions, eliminating hidden settings and boosting third-party engagement.

2018–2021 **Apple**, *Software Engineer*
I led the development of the Apple Music Voice Plan with a small team, designing the subscription logic, onboarding experience, and monitoring adoption. I also delivered cross-device media controls that let users control Apple TV playback using Siri on iPhone or HomePod, enabling actions like pause, skip, and subtitle changes without needing a physical remote. In my free time, I created a log analysis tool that reduced debug time from minutes to seconds per engineer. Built with a Lambda backend, React frontend, and deployed via Kubernetes and Express, this tool saved tens of thousands of engineering hours across Siri, HomeKit, and Communications teams.

Summer 2017 **Schulich School of Music**, *Front-End Web Developer*
Developed Pixel.js, an open-source, browser-based annotation tool that enables precise pixel-level labeling of documents to generate high-quality ground truth data for training image segmentation models in OCR. The tool supports multi-layer annotation, free-form drawing and erasing, undo/redo, and flexible import/export formats, resulting in a 40% reduction in labeling time.

Summer 2016 **Canadian Aviation Electronics**, *Software Engineering Intern*
Integrated Garmin load updates and OEM software packages into CAE's virtual simulators for Embraer Phenom 100/300 aircraft. Diagnosed and debugged simulator issues for two business jets and the Embraer 175 regional jet using tools like Wireshark to trace HSDB packet flows, along with internal tools to monitor data flow across system layers. Applied targeted fixes by modifying relevant C++ code.

Summer 2014 **Shared Reality Lab**, *Software Engineering Intern*
Built an always-on communication app that kept distant family members connected by running continuously on speakers and microphones in separate rooms. Users could turn a knob to speak normally or send ambient sounds like wind to subtly signal their presence without interrupting.

## Projects

2024 **Real Estate Data Scraper and Investment Analyzer**
Used Selenium to scrape housing data from Property Finder (Dubai) and Centris (Canada), collecting home prices, rental rates, and square footage by zip code. Built a structured database and analyzed it to identify high cash-flow investment properties based on ROI metrics.

2020 **Stock Strategy Simulator**
Built a Python app that simulates trading strategies using historical stock data from Yahoo Finance. Supported configurable start/end dates and multiple strategies (e.g., Bollinger Band exits, dividend capture). Evaluated performance by simulating trades day-by-day and generating detailed profit/loss reports.

2017 **Emotion Classification using Physiological Signals**, *Thesis*
Built an iOS app that collects real-time physiological signals such as heart rate, skin conductance, and temperature from the Empatica E4 wristband to classify five emotions using an RBF SVM (60% out-of-sample accuracy). Included real-time sonification to support emotional awareness for non-communicative users.

## Patents, Awards & Publications


[1] Apple, "Streaming tasks in a multiple device environment." `https://patents.google.com/patent/US20240379110A1/en`, 2024. U.S. Patent Application US 2024/0379110 A1; published 2024.

[2] Z. Saleh, K. Zhang, J. Calvo-Zaragoza, G. Vigliensoni, and I. Fujinaga, "Pixel.js: Web-based pixel classification correction platform for ground truth creation," in *2017 14th IAPR International Conference on Document Analysis and Recognition (ICDAR)*, 2017.

[3] J. Calvo-Zaragoza, K. Zhang, Z. Saleh, G. Vigliensoni, and I. Fujinaga, "Music document layout analysis through machine learning and human feedback," in *2017 14th IAPR International Conference on Document Analysis and Recognition (ICDAR)*, 2017.

[4] WearHacks, "Drive safe." `https://devpost.com/software/drivesafe-df52eg`, 2017. Best Application of Analytics Award.


## Skills

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| Languages | English, Arabic, French, Spanish |
| Coding | Swift, Python, Java, C, JavaScript, GoLang, SQL |
| Tools | Kubernetes, Docker, Apache Superset, Tableau, Splunk, JIRA |
| Frameworks | React, Django, Flask, Selenium, Pandas, Jinja |