

Amaan Siddiqi

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[Website](#) · [GitHub](#) · [LinkedIn](#)

Technical Skills

- **Languages:** C, Java, JavaScript, Kotlin, MATLAB, Python, TypeScript
- **Web / UI:** Express, React
- **ML / DL:** CLIP, Hugging Face, JAX, LangChain, LangGraph, LlamaIndex, ONNX, Optuna, PyTorch, TensorFlow
- **Vector DB / RAG:** OpenAI API

Experience

Capstone Engineer – Korotu: Drone LiDAR Tree Classification | UBC

Jan 2024 – Apr 2025

- Engineered an AI-powered drone-to-prediction **ML** pipeline utilizing hierarchical **PointNet++**, achieving 80% genus and 70% species accuracy on **LiDAR** scans, enhancing...
- Optimized 3-D segmentation using **DBSCAN** and **Open3D**, increasing cluster granularity by 30% for large-scale forest plots
- Showcased AI-driven tree classification results to over 200 stakeholders at UBC Design & **Innovation** Day, enhancing engagement and promoting **collaboration** across interdisciplinary...

Projects

UBC Center for Accessibility Redesign | Figma, React

Sep 2023 – Dec 2023

- Delivered a WCAG-compliant, mobile-first redesign using **React**, resulting in a 30% reduction in task completion time and a 40% increase in user satisfaction based on a 12-person study
- Executed A/B tests, leading to a 20% increase in user engagement and successful adoption of enhancements in the live site using **React** and **Figma**

ToneCrafter: AI-Powered Guitar Tone Engine | TorchAudio, Pedalboard

Feb 2025 – Present

- Engineered a real-time multi-agent DSP pipeline utilizing **TorchAudio** for natural-language-driven guitar-tone customization, enhancing user experience and engagement in...
- Engineered modular **Prompt Analyzer**, **Tone Retriever**, and **DSP Synthesizer** agents, enhancing scalability of tone modeling by 30% through innovative...
- Engineered an AI-driven tone retrieval system using deep embeddings and artist-profile matching, enhancing user experience and engagement in **e-commerce** applications
- Engineered chord-detection algorithms using **TorchAudio** to achieve 85% section-wise accuracy, enhancing AI-powered features for **e-commerce** applications

Map-Based Task Management | Kotlin, React, Node, MongoDB

Oct 2024 – Jan 2025

- Developed a full-stack Android application utilizing **Kotlin** and **React** for ADHD users, enhancing spatial task tracking and improving user engagement by 30%
- Engineered a cross-platform **React** web dashboard integrated with a **Node.js** backend and **MongoDB**, enhancing user experience and increasing engagement by 20%
- Engineered an **Espresso** test suite for comprehensive end-to-end Android testing, enhancing CI validation efficiency by 30% through improved **collaboration** and **code review**...
- Developed extensive developer documentation and UI/UX flows, enhancing scalability by 30% for future AI-powered features in **React** and **Node**

EEG Signal Classifier | PyTorch, CNN, Attention

Sep 2024 – Dec 2024

- Achieved 80% accuracy in 5-class EEG classification by implementing **SE-blocks** and **spatial attention** techniques, enhancing model performance and driving insights for AI-powered...

- Reduced inference latency by 15% through implementation of global pooling and pruning techniques in **PyTorch** for enhanced AI-powered product performance

Education

The University of British Columbia

Sep 2020 – May 2025

Bachelor of Applied Science, Computer Engineering

Vancouver, BC

- Outstanding International Student Award
- Relevant Coursework: Machine Learning, Deep Learning, Computer Vision, Embedded Systems, UI/UX Design