Afif Varikkodan

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EDUCATION

University of British Columbia — Vancouver, BC
Bachelor of Science in Computer Science, Minor in Economics — *Sep. 2022 – April 2027*
Weighted GPA: A- | Dean's List 2022 – 2023

EXPERIENCE

Junior Machine Learning Developer — May 2025 – December 2025
Metrized Consulting Inc. — *Vancouver, BC*
- Accomplished a 60% improvement in model performance by engineering a data preprocessing pipeline and implementing cross-validation techniques to reduce overfitting in RFDETR's object detection for industrial quality control.
- Enabled on-site model training and real-time inference by deploying a production-grade full-stack pipeline resulting in reduced model iteration cycles and immediate quality feedback.
- Accomplished 90% OCR precision, up from 70% by implementing HDBSCAN clustering to filter false positives and optimizing text region detection parameters resulting in fewer manual corrections and faster inspection workflows.

Teaching Assistant — Sep. 2024 – Present
University of British Columbia, Department of Computer Science — *Vancouver, BC*
- Supported 200+ students across 5 exam sessions by providing real-time technical troubleshooting and clarifying exam requirements resulting in zero exam disruptions and improved student satisfaction scores.
- Maintained exam integrity for 300+ person courses by implementing consistent proctoring protocols and coordinating with 8 TAs ensuring adherence to academic policies.

PROJECTS

SocialWeb – Personal CRM | *Typescript, RDBMS, Next.JS, GCP* — December 2025 – January 2026
- Accomplished integration of 3 Google APIs (Gmail, Calendar, OAuth) with Gemini AI by building a data aggregation pipeline in Next.js to enable AI-powered relationship insights without manual data entry.
- Architected a multi-user data persistence layer with Supabase by implementing row-level security policies and real-time sync to support concurrent users with isolated relationship data.

Money Accumulator – iOS Financial Tracker | *TypeScript, React Native, Expo, Firebase* — Nov 2025 – Dec 2026
- Accomplished real-time opportunity cost calculations with $\leq$ 100ms latency by engineering a client-side computation engine with optimized market API calls to provide instant financial insights on every transaction.
- Implemented secure identity protocols via Firebase Auth, ensuring data integrity and reliable synchronization between local device cache and remote cloud NoSQL databases.

LeapCode - Interactive Game | *Next.js, PostgreSQL, JQuery, Aseprite, TensorFlow* | *Hackathon* — Nov 2024
- Accomplished hands-free game control via facial expressions by building a FaceMesh-to-input mapping algorithm with distance/lighting normalization enabling accessible gameplay for users with limited mobility.
- Architected a low-latency state management system that bridged the Next.js virtual DOM with direct jQuery interactions, minimizing re-renders to ensure smooth gameplay performance.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), TypeScript, JavaScript, HTML/CSS, R
Frameworks: React, Node.js, Flask, JUnit, FastAPI
Developer Tools: Git, Postman, Google Cloud Platform, VS Code, Visual Studio, IntelliJ
Libraries: pandas, NumPy, Matplotlib, OpenCV, PyTorch, Roboflow, Ultralytics, Bootstrap, Tailwind