Yingfan (Ivan) Luo

778-228-6477 | yingfanluo@gmail.com | linkedin.com/in/ivan-yingfan-luo | github.com/ivan-lyf

EDUCATION

University of British Columbia   Vancouver, BC
Bachelor of Applied Science in Computer Engineering   *Dec. 2027*
Relevant Coursework: Computing Systems, Software Construction, Data Structure and Algorithm

EXPERIENCE

Software Engineer   Sept. 2025 – Present
UBC Rocket - Thrust Vectoring Team   *Vancouver, BC*
- Engineer a high-performance ground control station using **C++** and **Qt**, visualizing 50+ Hz telemetry streams to ensure real-time situational awareness for mission control.
- Implemented an ICM-20948 IMU firmware stack on STM32, streaming accel/gyro data at 1 kHz via SPI + DMA
- Support testing and debugging via **Python-based** automation frameworks to validate sensor/telemetry behavior and catch regressions.
- Modernize team infrastructure by containerizing the membership portal with **Docker**, utilizing **Next.js** and **Supabase** to streamline logistics for 50+ members.

PROJECTS

CS2 Tactics Mobile App | *React Native, Expo, Firebase*   Sep. 2025 – Present
- Engineered a real-time **lobby system** using **Firestore snapshots**, enabling 5-player teams to synchronize strategy and map selections with sub-second latency.
- Architected a scalable **NoSQL schema** to manage many-to-many relationships between users and content, optimizing read costs and query performance.
- Implemented a robust authentication flow integrating **Google OAuth** with secure session persistence, handling token refresh logic for seamless re-entry.
- Developed a fluid cross-platform UI with **React Navigation**, managing nested state across 10+ screens while maintaining 60 FPS performance.
- Built **optimistic UI updates** for social features (upvotes, comments), masking network latency to ensure an instantly responsive experience.

Rate My Dish UBC | *JavaScript, Vite, Supabase*   Oct. 2025 – Nov. 2025
- Developed a full-stack dining review platform using **Vite** and **JavaScript**, deployed via **Vercel**.
- Engineered serverless **Supabase Edge Functions** in **TypeScript** to autonomously scrape and synchronize daily menu data.
- Architected a **PostgreSQL** schema within **Supabase** to manage relational data between dining locations, rotating daily menus, and user reviews.
- Integrated an automated **AI image generation** pipeline to dynamically create visual assets for menu items lacking official photography.
- Integrated the **Google Gemini API** to build a conversational assistant that creates personalized meal plans based on live menu data and dietary goals.

SimpleCPU on FPGA | *SystemVerilog, Questa, Quartus Prime, DE10-Lite*   Oct. 2025
- Implemented a multi-cycle CPU datapath and control FSM in **SystemVerilog**, handling instruction decoding and memory access.
- Validated arithmetic and branching logic through self-checking testbenches and waveform analysis in **Questa**.
- Completed the physical design flow in **Quartus Prime**, including synthesis, pin assignment, and hardware bring-up on the **DE10-Lite**.

TECHNICAL SKILLS

Programming Languages: C, C++, Java, JavaScript, TypeScript, Python, SystemVerilog, QML, ARM Assembly
Frameworks: React, React Native, Expo, Next.js, Node.js, Supabase, Firebase, Chakra UI, QtQuick
Developer Tools: Git/GitHub, Vercel, Linux, MATLAB, Questa, Quartus, Altera FPGAs