# Stanley Fu

+1 (778) 989-8933 | sfu226@uwo.ca | stanleygfu.com | https://github.com/stn1y | linkedin.com/in/stanleygfu

## EDUCATION

**University of Western Ontario – Bachelor of Engineering in Electrical Engineering + Ivey Business**          Sep 2024 - Apr 2029
*Double Major in Electrical Engineering and Business*

- **88% Avg**, Dean's Honor List.

## EXPERIENCE

**Physique & Bodybuilding Coach | Independent**          Sep 2024 - Present
*Remote, London Ontario, Vancouver BC*

- Provide one-on-one **coaching** focused on weight loss, lean mass gain, and **bodybuilding show preparation**.
- Coach clients on **nutrition structure, calorie targets,** and macronutrient planning to support fat loss and muscle development.
- Design **individualized training programs**, progressive overload schemes, and cardio strategies aligned with specific physique goals.
- Monitor progress through performance metrics, body composition, and regular check-ins, adjusting plans to ensure consistent results.

**Founder & Administrator | Western Engineering Discord Community**          May 2024 – Present
*University Of Western Ontario*

- Founded and manage a 500+ member Discord community for Western Engineering students, supporting course discussions, academic collaboration, and resource sharing.
- Partnered with the Undergraduate Engineering Society (UES) to distribute official announcements and improve student engagement across engineering programs.

**CAD & 3D Printing Instructor | STEMphilic kids camp**          Mar 2023 – Apr 2023
*Fraser Academy, Vancouver BC*

- Designed and delivered the **first CAD and 3D printing curriculum** at STEMphilic, introducing students to parametric modeling, design constraints, and additive manufacturing fundamentals.
- Planned and managed the equipment budget, selecting cost-effective 3D printers, filament, tools, and safety equipment to support hands-on learning within **budget constraints**.
- Taught hands-on workshops covering CAD workflows, slicing, printer setup, and troubleshooting, guiding students from concept to finished prints.

## PROJECTS

**Academics Analytics, Ratings, and Course Planning Platform | *Full-Stack Web App***          Apr 2025 - Present
*React, JavaScript, Vite, HTML/CSS, Supabase (Postgres)*

- Built a system that annually **ingests student form submissions** and compiles them into **visual**, year-over-year engineering discipline averages, enabling students to understand GPA cutoffs and discipline trends.
- Designed a **relational Postgres database** supporting **CRUD operations** for course and professor ratings, reviews, comments, and aggregated analytics.
- Developed a **course progression view** to help students navigate engineering pathways, including Western's dual-degree structure, which lacks centralized online resources.
- **Collaborated** with an upper-year engineering student to validate course sequences and ensure academic accuracy.

**AI-Powered Business Case Analysis and Study Platform | *Full-Stack Web App***          June 2025 - Sep 2025
*OpenAI Responses API, React, JavaScript, Tailwind CSS, Supabase*

- Built a platform that **uploads and auto-segments casebooks** into individual cases, pairing each case with a **side-panel AI chat** for real-time analysis.
- Implemented **Retrieval-Augmented Generation (RAG)** using indexed case content and the **OpenAI Responses API** to deliver grounded, case-specific AI reasoning.
- Designed a **content hashing system** to detect duplicate cases, reducing redundant token usage and lowering inference costs.
- Extending the platform with **AI-generated narration (ElevenLabs)**.

**Synchronous Finite State Machine (FSM) Design on FPGA** | *Digital Logic & FPGA*                    Nov 2025 - Dec 2025
*Quartus Prime, ModelSim, Verilog, DE1-SoC FPGA*

- Designed and implemented two digital logic assignments with uniquely defined **FSM** specifications, including state encoding, input sequences, and outputs.
- Built synchronous finite state machines using **D flip-flops**, with logic minimized via **Karnaugh maps** and **Boolean algebra**.
- Analyzed timing behavior and validated correctness through simulation and **waveform** inspection against personalized requirements.

**Analog Function Generator PCB Design & Verification** | *Analog Electronics & PCB Design*                    Nov 2025 – Dec 2025
*Altium Designer, Micro-Cap, TL082 Op-Amps, Oscilloscope, Dual Power Supply*

- Designed and analytically calculated a multi-stage analog function generator (square, triangle, sine) for a specified target frequency.
- Verified circuit behavior using Micro-Cap simulations and validated performance through hardware testing with a dual power supply and oscilloscope.
- Designed the PCB in Altium Designer, prepared files for fabrication, assembled and soldered components onto the manufactured PCB, and tested the final device to achieve a 10 Vp-p sine output.

**Power Outage Monitoring and Data Visualization System** | *Embedded + Client Software*                    Jan 2025 - May 2025
*ESP32, INA219 Current Sensor, C++, Chart.js*

- Built an **ESP32**-based power monitoring device as part of a **6-person team**, integrating a current sensor, RTC, and SD logging to capture timestamped outage data for assessing power reliability in hospitals and healthcare facilities.
- Developed a companion dashboard to visualize power usage and outages, using **interactive Chart.js graphs**.

### SKILLS ────────────────────────────────────────────────────────────

**Code:** C, C++, Python, Java, JavaScript, SQL, HTML/CSS, MATLAB, Git
**Software:** Quartus Prime, LTspice, MATLAB, Fusion360, Micro-Cap, Altium Designer, Microsoft Office Suite
**Hardware:** ESP32, DE1-SoC FPGA
**Tools / Libraries:** React, Tailwind CSS, Chart.js, Supabase, OpenAI Responses API, Playwright, Selenium
**Other Coursework:** Algorithms, Data Structures, Statistics, Digital Systems, Circuit Analysis