Khushaan Virk

Vancouver, BC | 236-412-0495 | khushaanvirk@gmail.com | www.linkedin.com/in/khushaan-virk

Technical Skills

Embedded & Digital Systems: 8051 microcontroller, RISC-V, FPGA development, interrupt-driven systems
Programming: C, C++, Embedded C, Assembly, SystemVerilog, Arduino, Python
AI & Automation: LLM-based workflows, prompt engineering, agentic pipelines, API orchestration
Engineering Tools & Hardware: KiCad, MATLAB, AutoCAD, EasyEDA, breadboarding, soldering

Education

University of British Columbia — Vancouver, BC
Bachelor of Applied Science (BASc) in Electrical Engineering — *Expected May 2028*

- **Relevant Coursework:** Circuit Analysis, Digital Logic Design, Engineering Design, Technical Communication
- Clubs & Societies: Sports & Charity Rep, UBC First Year Engineers; UBC Bitcoin Club; Stop the Traffic UBC

Experience

AI Automation Engineer — Dec. 2025 – Present
Visurae (Co-founder) — *Vancouver, BC*

- Designed AI-powered automation workflows for lead generation and outbound outreach
- Integrated data ingestion, prompt engineering, and decision logic into end-to-end systems
- Collaborated with co-founders to evaluate performance, reliability, and scalability

Automation Engineer — Jul. 2025 – Present
Advizr — *Vancouver, BC*

- Converted stakeholder needs into technical requirements and implementation plans
- Developed AI-driven workflow automations reducing manual operations by 30%
- Coordinated cross-functional execution across engineering and operations teams

Sports Instructor / Summer Camp Leader — Sep. 2023 – Sep. 2025
City of Surrey — *Surrey, BC*

- Delivered structured programs for sports and cooking activities for ages 3–12
- Maintained safety standards, administered first aid, and documented incident reports
- Promoted to supervisor role; mentored new volunteers and maintained program attendance and incident records

Projects

Reflow Oven Controller | *Assembly, Python, ADC, PWM, Signal Conditioning* — Jan. – Feb. 2026

- Built a closed-loop temperature controller in Assembly on a CV-8052 microcontroller, regulating a 1500W oven via SSR-based PWM for SMD reflow soldering
- Implemented K-type thermocouple readout with cold-junction compensation, achieving ±3°C measurement accuracy
- Streamed real-time temperature data to a host PC via serial communication; used Python to process, plot, and validate sensor readings
- Assembled EFM8 PCBs using solder paste stencils and added automated phone notifications via webhooks on cycle completion

Embedded Alarm Clock System | *8051, Assembly, Timers, Interrupts* — Jan. 2026

- Designed an embedded alarm clock using the 8051 microcontroller with real-time timekeeping functionality
- Implemented timer-based interrupts in assembly to track seconds, minutes, and hours accurately
- Developed control logic for alarm triggering, reset behavior, and user interaction
- Debugged timing and interrupt-driven behavior to ensure reliable operation under continuous runtime

FPGA Tron Game | *FPGA, C, Digital Systems* — Nov. 2025

- Developed a real-time FPGA-based system in C, integrating hardware I/O for player controls and on-screen behavior
- Debugged timing and hardware–software integration issues using systematic testing and verification
- Designed game state machine with real-time collision detection and dual-player input handling across hardware I/O peripherals