Bhavneet Kaur

✉️ bhavneet Kaur | 📞 6476859112 | https://www.linkedin.com/in/bhavneetkaurr | https://www.bhavneetkaur.ca

Objective

Computer Engineering graduate skilled in **software development, embedded systems, and AI integration**. Passionate about building impactful, scalable applications and open to relocation anywhere in Canada.

Skills

- Programming Languages: Java, JavaScript, Python, C, C++, Verilog, Bash
- Mobile & Web: Xcode for iOS apps, Firebase Authentication & Firestore
- Tools & Frameworks: Git, VS Code, Eclipse, IntelliJ, PyCharm, Quartus, React, JUnit, unittest
- Hardware & Firmware: Arduino, Sensors, PWM Motor Control, FPGA (DE10-Lite)
- Soft Skills: Communication and Collaboration, Teamwork, Problem-Solving, Leadership, Accountability

Relevant Coursework 🔗

- EECS 3214 (Computer Networks): TCP/IP, DNS, DHCP, routing, troubleshooting
- EECS 3311 (Software Design): OOP, Factory & Observer patterns
- EECS 3221 (OS Fundamentals): Process, memory & file management
- EECS 3216 (Digital Systems Engineering): Verilog, FSMs, FPGA simulation & testing
- EECS 4315 (Mobile Communications): Wireless,VPN system design and remote connectivity.

Projects

- **Bluetooth Car using Arduino** 🔗
  Programmed in C/C++ (Arduino IDE) with an Arduino UNO, HC-05 Bluetooth module, and L298N motor driver to build a four-wheel robotic car controllable from any Android device. Firmware handles PWM motor control for smooth, bidirectional movement.
- **York Parking App (Smart Parking System)** 🔗
  Developed in Java using Swing, JDBC, Firebase Authentication & Firestore, and an MVC architecture. Enables York University users to reserve or cancel spots, manage wallet balances, and validate bookings securely in real time.
- **Morse Code Translator (FPGA Digital System)** 🔗
  Designed in VHDL (Quartus, DE10-Lite FPGA) to convert text input into Morse code output via LED and buzzer using finite-state-machine logic and clock division for precise timing.
- **C4 Housing Website (AI Chatbot)** 🔗
  Built to help low-income users find affordable housing, subsidies, financing resources, and community forums. Integrated a ChatGPT API chatbot for instant guidance and secure, accessible navigation.
- **Self-Watering Plant System** 🔗
  Created an automated irrigation setup using Arduino UNO, soil-moisture sensor, relay, and water pump programmed in C/C++ to water only when soil is dry and stops at optimal moisture.
- **Heartbeat Sensor Circuit Project** 🔗
  Designed an analog heart-rate detector with an IR LED/receiver and LM358 op-amp, amplifying signals to drive an LED indicator and display live waveforms on an oscilloscope.
- **ArUco-Based Robotic Arm Tracking System** 🔗
  Built a vision-guided robotic arm using OpenCV and Raspberry Pi to track ArUco markers and control servos for precise automated motion.

Education

York University - Lassonde School of Engineering — Toronto, ON
Bachelor of Engineering (B.Eng.), Specialized Honours in Computer Engineering — January 2021- August 2025

Project Management Certification (Linkedin Learning Project Management Foundation)