Krish Patel

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EDUCATION

University of Guelph — Guelph, ON
Bachelor of Engineering, Computer Engineering (Co-op) — *Sept. 2024 – May 2029*
- Dean's List: Fall 2024, Winter 2025, Fall 2025 — GPA: 3.7
- Relevant Coursework: Digital Systems Design, Engineering Systems Analysis, Data Structures & Algorithms

TECHNICAL SKILLS

Programming: C, C++, Python, Java, SQL, MATLAB, VHDL
Embedded & Electronics: Arduino, Sensor Integration, Circuit Debugging, Embedded Systems Testing
Mechanical & CAD: SolidWorks, AutoCAD, 3D Modeling,Assemblies, Engineering Drawings, Dimensioning
Engineering Tools: AI Literacy Cerificate (IBM SkillsBuild), KiCAD, Arduino IDE, Xilinx ISE, Excel
Engineering Skills: Prototyping, Hardware Testing, Troubleshooting, Technical Documentation, Microsoft Office

PROJECTS

Reverse Engineering Mechanical System | *SolidWorks, CAD Modeling* — Feb. 2026
- Reverse engineered a mechanical toy by analyzing components and recreating accurate 3D models in SolidWorks
- Designed mechanical parts using extrusions, cuts, fillets, and chamfers to accurately recreate original components
- Created detailed 2D engineering drawings with proper dimensioning and annotations to support manufacturing
- Created and validated a multi-part SolidWorks assembly to evaluate component fit and mechanical motion
- Documented design features and mechanical behavior through technical reports and visual demonstrations

4-Bit ALU Digital System | *VHDL, FPGA, Xilinx ISE* — Oct. 2025
- Designed and implemented a 4-bit ALU in VHDL for FPGA, enabling arithmetic and logic operations in hardware
- Simulated and analyzed system behavior with waveform analysis to verify functionality and identify design issues
- Performed structured debugging and iterative testing to diagnose logic and timing issues
- Performed hardware-level testing to ensure correct real-time system behavior

University Management System | *Java, SQL* — May 2025
- Developed a database-driven application using Java and SQL to manage and analyze operational data
- Designed SQL queries to enable efficient storage, retrieval, and validation of system information
- Implemented object-oriented programming principles to structure system modules
- Tested system workflows and debugged performance issues to improve reliability

Autonomous Wheelchair Control System | *C++, Arduino* — Dec. 2024
- Developed embedded control logic using C++ and Arduino for an autonomous mobility prototype
- Integrated electrical and mechanical subsystems and verified system functionality through iterative testing
- Analyzed experimental test results and documented design changes to improve system reliability and performance
- Placed 2nd out of 120 teams in a university engineering design competition

EXTRACURRICULAR INVOLVEMENT

Mechanical Team Member – Robotic Arm Subsystem — Sept. 2024 – Present
University of Guelph Robotics Club — *Guelph, ON*
- Contributed to the development of a robotic arm system for a rover in the Canadian International Rover Challenge
- Designed and updated SolidWorks CAD assemblies to support fabrication and mechanical integration
- Collaborated with electrical and software teams to integrate sensors, actuators, and mechanical components
- Assisted in subsystem testing and troubleshooting to verify mechanical functionality and reliability

EXPERIENCE

Operations Assistant — May 2025 – Aug. 2025
Anytime Convenience — *Hamilton, ON*
- Maintained structured Excel datasets to track inventory levels and operational metrics, improving data accuracy
- Performed data verification and analysis to identify discrepancies and improve process accuracy
- Documented operational workflows and maintained records to ensure consistency and traceability
- Assisted in identifying inefficiencies and recommending process improvements