ALI HUSSEINI

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EDUCATION

Mechatronics Engineering, University of Waterloo **Sept 2025 – April 2030**

- Candidate for Honours BASc in Mechatronics Engineering | 1A Term
- Relevant courses: Digital Computation (C++, OOP), Calc I, Linear Algebra (Python), Engineering Design (Excel, AutoCAD, SolidWorks

EXPERIENCE

Tutor & Communications Executive, Garth Webb SS Peer Tutoring Club, Oakville, ON **Sept 2024 – June 2025**

- Co-founded the club and expanded reach to over 200 students, managing public announcements and emails, as well as overseeing communications between teachers, tutors, and students
- Tutored 50+ students in Math and Science (grades 9-12), boosting academic performance by up to 15% and fostering strong study habits
- Adapted my teaching strategies to match various learning styles, ensuring engagement and a string ability to grasp concepts

Co-op Student Technician, Volvo Cars Oakville, Oakville, ON (1-month full-time placement) **July 2024 – Aug 2024**

- Partnered with senior automotive technicians at a leading dealership to diagnose and resolve complex system malfunctions, leveraging systems thinking, workplace safety practices, and structured root cause analysis to ensure reliable outcomes
- Supported various technicians with diverse working methods, adapting seamlessly to different workflows and contributing to quick completion of critical repairs in a high-pressure, fast-paced environment

PROJECTS

Joblyze - AI Job Posting Analyzer & Skill Extractor **Aug 2025 – Sept 2025**

- Developed an AI web app in Python/Streamlit using Ollama LLMs to summarize job postings and extract categorized skills (Required, Preferred, Cloud, etc.) with higher accuracy than regex/dictionary methods.
- Implemented resume upload + AI-driven skill gap analysis, enabling applicants to see strengths and missing competencies instantly.
- Delivered a clean single-page interface with progress indicators and downloadable reports, providing an end-to-end job analysis solution.

Dynamic Drone Delivery – 3D CAD Project **Feb 2025 – June 2025**

- Designed and modeled a fully 3D-printed prototype of a short-range delivery drone using Fusion360, using the complete Engineering Design Process from concept ideation and research to a finalized CAD assembly.
- Developed and refined complex mechanical components including propeller arm connectors and the drone frame assembly through intensive research, multiple design iterations, and technical drawings to improve motion range and part fit.
- Overcame technical and manufacturing challenges by troubleshooting 3D printing faults and optimizing part geometry through adaptability, problem-solving, and teamwork while transitioning digital CAD designs into a physical prototype.

Electronic Safe – Locked Website **May 2025 – June 2025**

- Engineered an embedded security system on ESP32 using C++ and PlatformIO, integrating keypad input, servo motor, LEDs, and a temperature sensor to replicate a functional electronic safe.
- Extended functionality by connecting the ESP32 to Wi-Fi and developing a web interface that synchronized with the physical safe, implementing a full-stack interaction causing the website to be locked/unlocked in real time based on hardware status.

SKILLS & INVOLVEMENT

- **Skills:** Python, C++, Java, Typescript, HTML/CSS
- **Tools:** AutoCAD, Autodesk Inventor, Fusion360, Solidworks, Microsoft Excel
- **Involvement:** Energy, Engineering, and Robotics Specialist High-Skills Major Program, DECA Business Club – Provincials
- **Certifications:** First Aid & CPR-AED, WHMIS, Worker Health and Safety