Ajay Sharma (He/Him) **Mechanical Engineering**

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TECHNICAL SKILLS

Machining & Fabrication
- 3D Printing, Laser Cutting
- Waterjet
- Lathe, Drill Press
- Spot Welding, Soldering

Programming & Software
- SolidWorks, AutoCAD
- Revit
- C, C++, MATLAB
- Python, MS Office

Certifications
- BC Class 4 Driver's License
- UAS Remote Drone Pilot A1A3
- Basic Security Training Certificate

EDUCATION

University of British Columbia **Expected: May 2027**
Bachelor of Applied Science (Year 3) - Mechanical Engineering

Langara College, Vancouver **April 2023**
Transfer Certificate - Engineering *(Graduated with distinction)*

Langara College, Vancouver **April 2019**
Associate of Science – General Science

TECHNICAL WORK EXPERIENCE

International Hellenic University, Thessaloniki, Greece **May 2023 – Sep 2023**
EVAE Lab Intern
- Designed and 3D-printed custom sensor housings, integrating them onto aerial drones to enhance environmental data collection capabilities.
- Programmed, wired, and calibrated 5+ multi-sensor systems, enabling accurate real-time readings with an average error margin of <3% during test flights.
- Conducted 10-plus flight tests to assess performance, identifying design improvements that increased sensor stability and data accuracy.

International Hellenic University, Thessaloniki, Greece **May 2023 – Sep 2023**
Department of Industrial Engineering Intern
- Rebuilt and optimized a Blue Robotics ROV-2, integrating sonar and GPS modules to improve underwater navigation accuracy by 40%
- Engineered upgraded camera mounts and installed a leak detection system, reducing potential mission failure risk by half during deep-water operations.
- Programmed and deployed 4 additional environmental sensors, enabling successful collection of temperature, pressure, pH, and conductivity data with 95%+ measurement accuracy.

OTHER WORK EXPERIENCE

Boring Tutors, Delta, BC **Sep 2024 – Aug 2025**
Tutor
- Teaching individual students and groups of students in high school and up to second-year physics, chemistry and mathematics.

Langara College, Vancouver, BC **Jan 2023 – Apr 2023**
Marker and Tutor
- Guided students in mastering complex physics concepts through one-on-one support, group study sessions, and targeted problem-solving strategies, improving comprehension and exam performance.
- Evaluated and provided constructive feedback on assignments and exams for 50+ students, maintaining accurate performance records and ensuring timely communication of results.

TECHNICAL PROJECTS

Firefighting Remotely-Operated Rough Terrain Vehicle, UBC **Jan 2024 – April 2024**

- Designed and prototyped a remote-controlled vehicle capable of traversing multiple terrain types and overcoming obstacles up to 15 cm in height.
- Engineered an adjustable water ejection system powered by pressurized air to extinguish flames at varying heights, improving targeting precision.
- Produced detailed mechanism descriptions and design documentation, ensuring traceability of design decisions and iterations for future development.

Aqua Surveillance Elite, Langara College **Jan 2023 – May 2023**

- Designed and assembled a portable water quality monitoring system capable of measuring pH, turbidity, and temperature on-site.
- Contributed to the 3D design and printing of multiple protective housings, ensuring water resistance and portability.
- Designed and tested electronic circuits for sensor integration.
- Programmed Arduino microcontrollers to process sensor data and display results on an LCD with ±2% accuracy.

ENGINEERING DESIGN TEAM

UBC Subbots, University of British Columbia **Aug 2023 – Current**

Team Member

- Developed machine learning and object detection models using COCO and custom datasets, increasing detection accuracy for underwater targets.
- Designed and implemented optimal path and trajectory generation algorithms based on visual input, potentially reducing navigation time by 25% during runs.
- Designed and prototyped circuits for gyroscope and magnetic field sensors to improve orientation tracking.
- Integrated hardware and software solutions for accurate vehicle position and orientation detection in underwater environments.

VOLUNTEER EXPERIENCE

UBC Engineering Undergraduate Society, Vancouver, BC **Jan 2024 – Apr 2024**

Career Fair Volunteer

- Checked in students and recruiters at the career fair, helping recruiters in setting up company booths and directing students to recruiters of choice.

AWARDS

Problem of the Month Grand Prize Winner, Langara College	2023
Dean's Honor Roll, Langara College	2022
Indian Association of Physics Teachers Olympiad	2015
Silver Zone Mathematics Olympiad Stage 2	2014
Silver Zone Science Olympiad	2013

INTERESTS & ACTIVITIES

- **Playing Chess-** Active on Chess.com with a 1000+ Elo rating, regularly participating in online matches to improve strategy and problem-solving skills.
- **Learning languages-** Maintaining a 1100-day streak on Duolingo and developing proficiency in multiple languages through consistent daily practice.