

Om Chaudhari, Mechanical Engineering

Vancouver, BC: Calgary, Alberta

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TECHNICAL SKILLS

Mechanical & Analysis: SolidWorks, FEA, CFD, Tolerance Analysis, Drafting (ANSI), Revit

Controls & Software: MATLAB, Simulink, Python, C/C++

Hardware: Microcontrollers, PCB Design, Circuit Prototyping, Sensors, Actuators

Tools: Excel (engineering calculations, modeling), Arduino

EDUCATION

University of British Columbia, Vancouver BC

Bachelor of Applied Science in Mechanical Engineering (Co-op)

Available for 4,8, & 12-Month Internship

PROFESSIONAL EXPERIENCE

UBC Agrobot, Vancouver, British Columbia

January 2026 – Current

Mechanical Team Member

- **Designed mechanical subsystems** for an **autonomous agricultural robot** used for targeted weed control and plant data collection
- Built **Excel-based torque and RPM models** to size motors and drivetrain components, directly supporting **component selection** decisions
- **Designed** powertrain and steering components in **SolidWorks**, validating strength and safety factors using **FEA**

Optimystix Inc., Calgary, Alberta

May 2025 – August 2025

Office Assistant

- **Improved** internal document workflows using Excel and OneDrive, **reducing file retrieval time by ~10%**
- **Coordinated** schedules, meetings, and documentation using **Microsoft 365** in a deadline-driven environment
- Served as a **primary contact** for clients and vendors, **resolving issues quickly** and maintaining clear **technical communication**

TECHNICAL PROJECTS

Payload Delivery RC Vehicle, Class Project

January 2026 – February 2026

- **Built** and tracked the team schedule using **CPM** and a **Gantt chart**, **ensuring deadlines** are achieved across the formal design process.
- Created **hand sketches + SolidWorks CAD prototypes** for braking and steering concepts; scored and ranked comprehensive concepts using a **Pugh Matrix** and **WDM** to select the final design.
- **Fabricated** components to drawing tolerances using **sheet-metal tools** and **waterjet cutting**, following shop safety and **DFMA** guidelines.
- Developed a **Bill of Materials (BOM)** and **tracked** costs to **manage** the project **budget** through final assembly.

Handheld Stabilizing Gimbal, Personal Project

October 2025 – November 2025

- **Designed** and **fabricated** a lightweight gimbal structure in **SolidWorks**, achieving a **15% mass reduction** while maintaining stiffness
- **Optimized** 3D-print orientation and **design for manufacturing**, **cutting print time by ~20%** and improving part **strength**
- **Developed** Arduino-based **control logic** to fuse **accelerometer data** and drive **servo actuation** in a **real-time loop**
- **Designed** and **documented** supporting electronics, **selecting components** and defining system interconnections



Maglev Device, Class Project

August 2025 – September 2025

- **Fabricated** precision mechanical components for a magnetic levitation device using **hand tools** and **machinery**, maintaining tolerances within $\pm 0.05\text{--}0.1\text{ mm}$
- **Drafted** and **reviewed** ANSI-compliant engineering drawings with **detailed** dimensioning and tolerance callouts to **support accurate** fabrication and assembly

Rainwater Harvesting System Simulation, Class Project

March 2025 – April 2025

- **Collaborated** with a team to develop and utilize **Excel** to **simulate** rainfall data, **optimizing** the **efficiency** of a rainwater collection system
- Applied **evaluation criteria** such as **sustainability, cost, and service requirements** to create **Satisfaction Curves**, influencing system design and **improving** overall stakeholder **satisfaction**
- Worked alongside team members to **prototype power systems, filtration setups, and tank placements** using **topographical data**, ensuring the system **maximized** stakeholder satisfaction

VOLUNTEER EXPERIENCE

YMCA, Calgary, Alberta

May 2022 – January 2024

Head Basketball Coach

- **Led** and **coordinated** a team of 12 in a **fast-paced environment**, emphasizing **communication**, accountability, and continuous improvement
- **Analyzed** player performance to **identify inefficiencies** and **implemented** targeted strategies, **improving** outcomes for 45 players
- **Communicated** with other coaches to **plan** and **execute** training plans aligned with strategic objectives

INTERESTS/HOBBIES

- **Basketball** – Stay physically active by organizing and participating in weekly pickup games
- **Automotive Mechanics** – Gained practical experience through a high-school mechanics course, including an engine swap on a Ford Ranger
- **Robotics** – Ongoing self-learning through studying and analyzing robotics projects

