Arjun Sharma

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EDUCATION

Toronto Metropolitan University   Toronto, ON
Bachelors of Mechatronics Engineering (Co-op)   Expected Graduation: 2029
Relevant Coursework: Programming for Mechatronics, Graphical Communication Design, Material Science Fundamentals, Statics and
    Mechanics

SKILLS

3D CAD Tools: Fusion360, Solidworks, OnShape, AutoCAD
Programming and Analysis: C/C++/C#, Arduino, Multisim, Python, KiCad, RaspberryPi, CMOS System Design, OpenRocket
Manufacturing Knowledge: CNC Machining, Engineering Drawings, GD&T, Mechanical Assembly, Prototyping, Metrology, Deburring
Other Skills: Microsoft 365 (Excel, Word, Power Bi, etc.), Google Suite, SAP/ERP, Project Management, Leadership, Critical Thinking

WORK EXPERIENCE

ABS Machining   Burlington, ON
Summer Engineering Intern   July 2025 - September 2025

- Supported daily operations in a **high-precision manufacturing** facility with both **CNC** and **conventional machining processes**.
- Assisted with **deburring**, **post-processing**, and **visual/dimensional inspection** (±0.001") of **machined components** to meet tight tolerances and finish standard on industrial grade components.
- **Diagnosed and resolved** CNC lathe startup failure through **electrical schematic interpretation** and **relay fault tracing** in coordination with machinists, **restoring machine uptime** within hours and **preventing production delays**.
- Performed routine preventative maintenance and shop floor organization to ensure safety and **production efficiency**.
- **Collaborated closely with machinists and technicians**, and learned about **operating CNC mills/lathes**, **manual machines**, and **precision inspection tools** (calipers, micrometers, gauges).
- Learned to **interpret engineering drawings**, **follow technical documentation**, and **understand production workflows** across multiple departments.
- Helped in moving and flipping **machined assemblies** up to **100 tons** using **cranes and anchor-point rigging** alongside supervisor
- **Manufactured and inspected precision hardware** components critical for industrial assemblies

LEADERSHIP & INVOLVEMENT

Engineers for a Sustainable World (Club)
VP Project Management @ Toronto Metropolitan University   Sept 2025 - Present

- Member of **TMU's ESW chapter**, the **third in Canada**, focused on **sustainable engineering innovation**
- Inspired by the ESW presence at the **CSE 2025 National Conference** in Guelph, initiated efforts to bring the organization to TMU
- Collaborated with **student leaders and professional**s from across Canada to **develop strategies** for addressing **sustainability**

Mechatronics Course Union
Social Events Director @ Toronto Metropolitan University   May 2025 - Present

- Appointed as the **first-ever Social Events Director** in the MCU, representing the inaugural Mechatronics cohort at TMU
- Leading the **planning and execution** of **5-10 social & technical events** and enhancing student experience for **150+ Mechatronics students** to foster student engagement and community.

First Year Engineering Committee & First Year Ambassador
Toronto Metropolitan University; First Year Engineering Office   September 2024 - Present

- Hosted social and academic support events for **200+ first-year engineering** students to build a community and encourage engagement, supporting **over 100 incoming students** in their transition.

PERSONAL PROJECTS

Smart Fire Detecting System | SolidWorks, Raspberry Pi, ESP32, Python, Raspberry Pi, YOLOv8   Nov 2025

- Developed a real-time fire detection system using **Raspberry Pi**, **Pi Camera**, and **YOLOv8** to locate and track ignition points
- Designed and built a **two-axis pan-tilt water turret** with **SolidWorks**, PETG-printed parts, and **ESP32-controlled servos**
- Created a full end-to-end mechatronics pipeline, integrating camera processing, serial communication, servo control, and water pump activation

Non-Invasive Neuromuscular Intent Decoding Pipeline | Fusion360, KiCad, Embedded Systems   Nov 2025

- Achieved **2nd Place at the Metropolitan Engineering Competition** by creating a **non-invasive HD-sEMG intent-decoding pipeline** with custom acquisition schematics and a **CNN-LSTM classifier**
- Designed and built a tendon-driven **prosthetic hand prototype in 8 hours** including full **CAD**, **ESP8266 control**, and micro-servo tendon actuation
- Delivered a complete **low-cost assistive robotics system** combining rapid prototyping, embedded control, and AI architecture.