Aayan Patil

aayanpatil2007@gmail.com | (647) 510-7109 | Ottawa, ON | linkedin.com/in/aayanpatil

EDUCATION

University of Ottawa - Faculty of Engineering and Computer Science **Expected April 2030**
(**BAsc**) Biomedical Mechanical Engineering + (**BSc**) Computing Technology (CO-OP) *Ottawa, ON*
- TD Community Leadership Scholarship ($2500)
- Entrance Scholarship ($3000)

PROJECTS

PID Ball Balancing Machine **Dec 2025**
Markham, ON
- Designed a closed-loop embedded system using Python and Raspberry Pi to actively balance a ball, interfacing with an HC-SR04 ultrasonic sensor and servo motor via GPIO for real-time actuation.
- Implemented and tuned a PID control algorithm to process sensor feedback and correct beam angles, translating theoretical control systems concepts into a functional hardware prototype.
- Optimized system stability through iterative debugging and prototyping, resolving challenges related to sensor noise, signal timing, and hardware-software integration.

EXPERIENCE

University of Ottawa Biomedical Engineering Team **Sep 2025 - Present**
Mechanical Subteam Member *Ottawa, ON*
- Collaborate on the design and implementation of a bionic arm for medical applications.
- Use CAD tools (SolidWorks) for mechanical design and analysis in team-based projects.
- Apply biomechanics and electronics integration principles to develop functional prototypes.

University of Ottawa Rocketry Engineering Team **Sep 2025 - Present**
Airframe Subteam Member *Ottawa, ON*
- Gain practical experience with composite materials and manufacturing techniques for aerospace applications.
- Collaborate on the structural design and development of the rocket's airframe for competitive competitions.
- Work within a technical engineering team to ensure the airframe meets performance and safety criteria.

High School First Robotics Canada Team **Sep 2024 - Jun 2025**
Design Subteam Member *Markham, ON*
- Designed and assembled robotic components using SolidWorks, 3D printing and basic electronics.
- Collaborated with other functional subteams to optimize robot structure and performance.
- Gained applied experience in mechanical design, problem-solving, and teamwork under competition deadlines.

City of Markham - Aquatics **Mar 2023 – Jan 2024**
Lifeguard *Markham, ON*
- Supervised swimmer safety and enforced pool regulations.
- Performed rescues and administered emergency first aid when necessary.
- Organized aquatic activities to promote community engagement.

CERTIFICATIONS & SKILLS

- **Certifications:** National Lifeguard; Airway Management; Standard First Aid - CPR C
- **Technical Skills:** Microsoft Office, Google Workspace, TinkerCAD, Python, SolidWorks, Raspberry Pi, Java
- **Soft Skills:** Communication, Public Speaking, Teamwork, Leadership, Conflict Resolution, Customer Service, Time Management, Organization