Ibrahim Ahmed

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SUMMARY

Final-year Mechatronics Engineering student with hands-on coursework in robotics, embedded systems, sensors, and CAD design. KUKA and PLC laboratory experience, plus FDM additive manufacturing research.

TECHNICAL SKILLS

Programming: Python, C++, MATLAB; KUKA Robot Language (KRL) in lab exercises

Robotics & Automation: KUKA robot programming, robot coordinate frames, PLC ladder logic (coursework/labs)

Embedded Systems & Controls: Microcontrollers, sensors and sensor integration, embedded control, control systems

CAD & Additive Manufacturing: SOLIDWORKS, Siemens NX, FDM 3D printing, filament-composite research

AI & Machine Learning: Introductory algorithm implementation (course labs), machine-learning fundamentals

EDUCATION & CERTIFICATIONS

Ontario Tech University **Oshawa, ON**

Bachelor of Engineering (Honours), Mechatronics Engineering

Certifications: SOLIDWORKS CAD Design Professional (CSWP) | SOLIDWORKS Simulation Professional (CSWP-S)

Relevant Coursework: Robotics, PLC/Industrial Automation, Embedded Systems, Controls, Sensors, AI & ML

ENGINEERING PROJECTS

Tree-Climbing Arborist Robot (Senior Capstone) **2026–Present**

Technology Used: Mechanical design | Robotics | Prototyping | Design requirements

- Developing a scaled tree-climbing robot concept for remote pruning and branch obstacle avoidance.
- Evaluating segmented climbing mechanisms, attachment forces, branch clearance, and bark pressure.

Maze-Navigating Package Handling Robot (Course Project) **2026**

Technology Used: Robotics | IR sensor | Servo-actuated claw | Mechanical design

- Revised a mobile robot chassis for maze navigation and package handling.
- Integrated IR package detection with a servo-driven claw for grasping and lifting.

Automated Aquarium Water Replacement System (Course Project)

Technology Used: Embedded systems | Sensor integration | Automated control

- Developed a coursework prototype to automate fish-tank water replacement.
- Implemented sensor-driven control logic to coordinate the water replacement process.

PROFESSIONAL EXPERIENCE

HUSS Media **Toronto, ON**

Digital Marketing Associate *05/2024 – 09/2025*

- Planned and executed social and search advertising campaigns across Meta, Google, YouTube, and TikTok, achieving an average 6× return on ad spend (ROAS).
- Analyzed campaign performance and optimized audience targeting, content, and advertising strategies.
- Coordinated videographers and directed video shoots and other creative assets.

Ontario Tech University **Oshawa, ON**

Research Assistant *12/2022 – 04/2023*

- Conducted literature reviews and examined case studies on 3D printing in construction to support an academic review paper.
- Collaborated with Professor Ramona Fayazfar and graduate researchers on filament-composite research and material optimization for FDM.
- Designed SOLIDWORKS test geometries for evaluating newly developed filaments.

Islamic Institute of Toronto **Toronto, ON**

Summer Camp Counsellor *06/2017 – 09/2020*

- Led classes for students ages 6–15 and organized weekly activities for 100+ students.
- Mentored five junior counsellors and 12+ volunteers; helped coordinate curriculum, logistics, and safety.