Sharavanan Mathivanan

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EDUCATION

Western University   London, ON
Bachelor of Engineering Science, Mechatronics and AI Systems Engineering   *Expected Apr 2029*

TECHNICAL SKILLS

Control Systems & Electronics: PID Control Loops, PCB Layout, Soldering, Sensors(IMU, Encoders, Ultrasonic), Actuators(DC/Servo)
Languages: Java, Python, C/C++, JavaScript, MATLAB, Assembly
Engineering Software: SolidWorks(CSWA Certified), Git, AutoCAD (Basic), MS Office (Excel Certified, Word, PowerPoint)

RELEVANT ENGINEERING EXPERIENCE

Junior Tricopter Lead   Sep 2025 – Present
Western Aero Design
- Leading development of a competitive Tricopter for the International SAE Advanced Class Challenge.
- Designed custom PCBs and wiring diagrams to manage power distribution and orientation instrumentation.
- Troubleshooted avionics integration through precision soldering and CAD part alterations in SolidWorks.

Software Lead Ri3D (Robot in 3 Days)   Jan 2026 - Jan 2026
WEFIRST Robotics Club
- Programmed PID control loops and performed motor flashing for precise mechanism actuation.
- Managed real-time documentation of control logic to ensure system reliability under 72-hour constraints.
- Collaborated with electrical teams to resolve hardware-software integration issues and sensor calibration.

CV and AI Application Intern   May 2025 – Aug 2025
MAANTT Global Services
- Developed a monitoring engine using Python and MediaPipe for automated multi-source data tracking.
- Scaled system architecture to monitor 50+ concurrent inputs while maintaining 90% detection accuracy.
- Automated reporting workflows and improved system reliability through rigorous technical documentation.

Robot Designer and Trainer   Mar 2024 – Aug 2024
MEBOT Robotics
- Designed educational robots and created training curriculum focusing on instrumentation basics.
- Commissioned functional prototypes and delivered technical demonstrations to academic and industry clients.
- Managed project timelines and applied programming to lead hands-on learning sessions.

PROJECTS

Autonomous Turtle Egg Collector | *Arduino, Sensor Integration*
- Engineered and autonomous vehicle utilizing Control Logic and Sensors (Ultrasonic) to locate and collect turtle eggs.
- Designed the mechanical-electrical interface for delicate object handling and navigation in outdoor environments.

Eye-Tracking Mouse | *Python, MediaPipe, PyAutoGUI*   GitHub
- Developed a hands-free navigation system using Python and facial landmark detection to achieve low-latency cursor control.
- Integrated real-time video processing to translate blink detection into mouse clicks and smooth scrolling.

Interactive Light Therapy Tree (Course Project) | *Arduino, 3D Printing*   GitHub
- Engineered a wellness lamp featuring PCB Layout and Control Systems to manage therapeutic RGB LED modes.
- Integrated a user interface with an LCD timer and manual brightness controls to enhance hardware-user interaction.

CERTIFICATIONS

- CSWA (Certified SolidWorks Associate) – Dassault Systèmes (2025)
- MATLAB Onramp – MathWorks (2024)