

Joshua Hodson

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SKILLS

Programming: C++, C, Python, RobotC, VHDL, MATLAB

Design Tools: SolidWorks, AutoCAD, Blender, Fusion 360, CAD Modeling, 3D Printing

Technical: Circuit Design/Analysis, Microcontrollers, Soldering, Signal Analysis, Arduino, PLCs, Data Acquisition

Developer Tools: Git, Docker, VS Code, Google Colab, Microsoft Teams

Soft Skills: Teamwork, Communication, Iterative Design, Problem-Solving, Project Management, Rapid Prototyping

Data/Analysis: Statistical Analysis, Optimization, Systems Modeling, Advanced/Multivariable Calculus, FEA, Fourier

EXPERIENCE

Business Analyst (AI Strategy)

May. 2025 – Sep. 2025

Wouessi Inc.

Remote - Toronto, ON

- **Streamlined SME operations** by identifying **25+ Azure AI use cases** that enhanced services and strengthened financial performance, through business process analysis and stakeholder interviews.
- **Enabled scalable AI transformation** by delivering a **30+ slide strategic roadmap** with ROI projections, governance framework, and phased adoption strategy, supporting client decision-makers in effective rollout.
- **Projected \$115K+ in annual cost savings** across branding, IT support, and software development by conducting cost-benefit and risk analysis of Azure-based solutions.

General Employee

Aug. 2023 – Aug. 2024

A&W Canada

Surrey, BC

- **Contributed to multiple awards** for profitability, service quality, cleanliness, and customer satisfaction by maintaining daily operations and supporting efficiency during peak hours.
- **Maintained operational efficiency** serving over **100+ customers per shift** by collaborating with team members and applying time management strategies.
- **Enhanced order accuracy and speed** by streamlining communication between front-of-house and kitchen staff, improving average order fulfillment times during peak service periods.

PROJECTS

Hexapod Robot Project | *Arduino, C++, 3D Printing, Robotics*

- **Redesigned and optimized a malfunctioning 12-DOF hexapod robot** by reprinting hardware, refactoring a complex codebase, and integrating a custom Arduino shield for reliability, resulting in smoother autonomous movement and robust system performance.
- **Solved persistent failures** with reinforced leg parts and targeted material improvements, reducing breakage under stress and boosting both walking speed and stability for challenging gait patterns.
- **Documented iterative engineering and troubleshooting process** through a detailed design notebook, streamlining future maintenance and highlighting adaptability in both hardware and software fixes.

Playing Card Dealing Robot | *LEGO EV3, Sensors, Team*

- **Led design and coding** for a collaborative robot that shuffles and deals cards, developing custom anti-jamming detection for casino-reliable performance and integrating motors, encoders, and sensors for robust automation.
- **Coordinated full lifecycle** from problem analysis to demo, delivering in-depth technical documentation, iterative prototype testing, and refining teamwork under tight university project deadlines.

VEX Robotics Competition Robot | *VEX EDR, Mechanical & Electrical*

- **Designed and built a competition robot** with custom 4WD drivebase, reliable climbing, and scoring systems in a two-person team, consistently delivering creative engineering under competition constraints.
- **Achieved top competition climbs** and field adaptability through distinctive mechanical solutions, while managing project documentation and rapid prototyping workflows in a fast-paced, results-driven environment.

EDUCATION

University of Waterloo

Waterloo, ON

Candidate for BAsC in Mechatronics Engineering

- **Key Coursework:** Mechatronics & Control Systems, Microcontrollers & Embedded Programming, Circuit Analysis, Digital Logic Design, CAD & Rapid Prototyping, Sensors & Data Acquisition, Systems Modeling