Huzayfa Jasat

647-294-9867 | huzayfajasat@gmail.com | linkedin.com/in/huzayfa-jasat

Education

University Of Waterloo Sep. 2024 - Apr. 2029

Bachelor of Applied Science in Mechatronics Engineering *Waterloo, ON*

Relevant Coursework: Mechatronics Engineering, Digital Computation, Data Structures and Algorithms

Experience

Firmware Team Member Sep. 2024 – Present

University of Waterloo Formula Electric

- Developed a CLI command to clear motor controller faults, reducing troubleshooting time **by 30%**
- Integrated fault-clear functionality within diagnostic tools used for electric vehicle motor systems, achieving a **95% success** rate in automated fault recovery simulations and ensuring accurate system performance during testing.
- Calibrated motor control systems by analyzing performance data, leading to a **10% increase** in motor efficiency
- Proactively identified and adopted emerging tools and technologies, such as advanced debugging software and performance monitoring frameworks, driven by a passion for continuous learning and innovation

Robotics Club President Sep. 2023 – Jun. 2024

Pine Ridge Secondary School

- Led a **20-member** team in building competitive robots, achieving a **top 3 finish** in the regional championship
- Secured **$3,000** in funding for club activities and projects, by pitching to over **10** potential sponsors
- Empowered **25+ team members** by organizing **35 workshops** to enhance technical skills in mechatronics and robotics, fostering collaboration and boosting efficiency across diverse roles

Apprentice Jul. 2022 – Sep. 2022

Federal Auto Repair

- Inspected and replaced **over 50 mechanical components**, including brakes, rotors, and discs, enhancing vehicle functionality, resulting in a **20% improvement** in vehicle performance and reliability
- Repaired or replaced mechanical units and components using hand and power tools, including soldering mufflers for noise reduction and exhaust efficiency, resulting in improved vehicle operation and reduced emissions
- Operated **5** hydraulic systems, gaining hands-on experience and in-depth knowledge of hydrualic machines

Projects

Motion Detecting Walking Stick | *TinkerCAD, Arduino*

- Integrated motion sensors and vibration components to alert users of nearby obstacles, improving mobility for individuals with visual impairments
- Implemented real-time object detection and trigger vibration feedback **within 0.5 seconds**
- Utilized **3** motion sensors to cover a detection range of **180 degrees**, ensuring comprehensive obstacle detections
- Conducted **over 50 tests** to calibrate sensor sensitivity, achieving a **95% detection accuracy**

Automated Pet Feeder | *EV3 Robotics , RobotC*

- Used an ultrasonic sensor and sound sensor to differentiate between cats and dogs, rotating a turntable to dispense a pre-set amount of food based on the identified pet
- Programmed user input for feeding intervals, ensuring proper nutrition schedules, and implemented real-time checks for empty food hoppers, maintaining functionality and reducing downtime by **20%**
- Achieved **98% accuracy** in distinguishing between pet types during testing, ensuring reliable operations
- Conducted over **40 trials** to optimize dispensing mechanisms, resulting in a **15% reduction** in food waste

Skills

- **Languages**: Python, Java, C++, Javascript, Typescript
- **Tools and Framework**: SolidWorks, AutoCAD, Arduino, React
- **Concepts:** Innovation, Growth Mindset, Problem-Solving, Collaboration, Continuous Learning