Murtadha Saeed Nisyif

Computer Engineering Undergraduate

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Summary

- Highly accomplished and motivated engineer with a strong background in Robotics and Information Technology.
- Demonstrated expertise in leading successful accessibility projects and proposing innovative system architectures.
- Lead developer in real-time projects, including a Text-to-Braille Real-Time Converter and a real-time security system.
- Winner of design competitions, earning $2,000 prize for an image processor automating medical tests readouts.
- Proficient in various programming languages, frameworks, and databases.

Education

University of Guelph **Sep 2023 – Aug 2025**

Masters of Applied Science in Computer Engineering *Guelph, Ontario*

- Focus Area: Machine Learning, Embedded Systems, Edge-Cloud computing, Core Networks
- Test

University of Guelph **Sep 2019 – May 2023**

Bachelor of Engineering: Major in Computer Engineering, Minor in Computer Science *Guelph, Ontario*

Relevant Work Experience

Undergraduate Research Assistant **May 2023 – Present**

University of Guelph - Robotics Institute *Guelph, Ontario*

- Staged an accessibility project funded by NSERC to production and installed it at Collingwood's public facilities
- Designed and proposed ROS2 system architecture for an assistive feeding robot for individuals with special needs

R&D Software developer - Work Study **Oct 2022 – May 2023**

University of Guelph - Robotics Institute *Guelph, Ontario*

- Implemented multi-level data pipeline between depth cameras and FANUC arm achieving a modular operational system
- Took tasks to switch to ROS from python based robotics system, to reduce complexity and improve operation stability

Information Technology Analyst **Jul 2020 – Oct 2020**

Kitchener Downtown Community Health Center - SRHC *Kitchener, Ontario*

- Devised a call scheduling scheme to cut down patients' call waiting times by 30%
- Saved 45% of a $10,000 budget by implementing self-devised equipment upgrade plan using cost-saving initiatives

Relevant Projects

Text-to-Braille Real-Time Converter | *Python, Git, Eagle, Jira* **Apr 2023**

- Lead a group of 4 and coordinated with a NPO to design a novel solution that converts text-to-braille in real time while maintaining a challenging building cost of $250 CAD

Program Counter CMOS-Based Integrated Circuit | *Cadence, Jira, Linux* **Jan 2023**

- Applied concepts such as fanout, and delay calculations to develope an optimized CMOS based program counter following a hierarchical design and validated functionality by using industry grade simulation tools

Real-Time Security System | *STM32, FreeRTOS, uC-OS III* **Nov 2022**

- Built a real-time security system using a STM32f429 development board, a FHD camera and a PIR motion sensor by utilizing real-time systems concepts such as semaphores and interrupts to deliver a system with response times of 50 ms

buildNbox | *React, Git, Node JS, SQLite, Jira* **Aug 2022**

- Developed a REST api backend using Node JS for data retrieval from Amazon.ca using their rainfores api, resulting in instant and seamless browsing

ZAMAZ UTI Diagnosis - Image Processor | *Python, NumPy, SciPy, Matplotlib* **Apr 2022**

- Developed and integrated a software system to automate bar volumetric readouts of urine sample tests by analyzing a captured image of the readout and performing pixel calculations to calculate the concentrations of bacteria. This system is 16 times faster than the current gold standard, and as a result, my team won a prize of $2,000 in a design competition among 50+ groups

Skills

Languages: C/C++/C#, Python, JavaScript, Java, HTML, MATLAB, VHDL, CSS
Frameworks: Node.js, React.js, Express.js, NumPy, ROS(1 & 2), Pandas, Tensorflow, Django, FreeRTOS
Tools: Git, Docker, GCC, CMake, Xilinix, Quartus IV, Cadence Virtuoso
Databases: MongoDB, MySQL, SQLite