Matthew Salazar

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EDUCATION

Bachelor of Engineering: Computer Engineering (Co-op) 09/2022 – Present
University of Guelph Guelph ON, Canada
- **Relevant Coursework:** Data Structures, Digital Systems Design.

SKILLS

Languages
C/C++, Java, Python, VHDL, MATLAB

Developer Tools
Git, GitHub, Visual Studio Code

Operating Systems
Windows, MacOS, Linux

Computer-Aided Design (CAD)
SolidWorks, KiCad, AutoCad, Fritzing

PROJECTS

WIRELESS ROBOTIC HAND 05/2023 – 09/2023
Arduino, C++, SolidWorks, Fritzing
- Designed a 3D-printed robotic hand in **SolidWorks**, enabling dynamic gesture replication.
- Established wireless communication between Arduino Nano's with NRF24l01 transceiver modules.
- Implemented data transmission and servo control through **C++** microcontroller programming .
- Featured on the **University of Guelph's College of Engineering & Physical Sciences** website .

FILE PROCESSING SYSTEM 01/2023 – 05/2023
Java, Object-Oriented Design, API, Git
- Created a **JSON**-based file processing system, which took in defined processing elements with local or remote operations.
- Extracted file content and size, then filtered files based on specified conditions.
- Integrated **Laserfiche API** for remote directory access.

FOUR BIT ALU 11/2023
Hierarchal Design, VHDL, FPGA.
- Organized the ALU into modular and manageable blocks, enhancing reusability and maintainability.
- Conducted simulations with ISim to verify the correctness and functionality.
- Translated VHDL code into a bitstream for deployment on an FPGA board, understanding the specifics of the chosen FPGA platform.

ALARMBOT 06/2023
Python, API, Git
- Created an alarm bot using **Discord's API** and asyncio library for timely notifications
- Provided personal notifications for exams and tests, with a custom message specified by the user.

EXPERIENCE

Electrical Team Member 09/2022 – Present
University of Guelph Robotics Guelph ON, Canada
- Utilizing **KiCad** to implement a PCB breakout for the GPIO Expansion Connector on the **Rudi-NX**, sorting all required connections together.
- Ensuring proper routing to minimize interference and maximize reliability.
- Conducting extensive research on the **RS485** communication protocol.

General Labourer 05/2023 – 09/2023
Utilicon Engineered Precast Structures Bradford ON, Canada
- Prepared moulds for concrete pouring by creating rebar foundation, cleaning and oiling.
- Achieved a smooth finish to the product by vibrating and floating the concrete
- Performed general maintenance duties.

COMMUNITY INVOLVEMENT

Big Buddy 09/2023
University of Guelph Engineering Society Guelph ON, Canada
- Provided guidance and mentorship to incoming computer engineering students, by sharing personal experiences and facilitating open discussions.
- Created a supportive environment where engineers could connect and build relationships through various activities.