

Areeb Jamal

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EDUCATION

Bachelor of Computer Engineering and Management

Sept. 2020 - Apr. 2025

McMaster University

Hamilton, ON

- **GPA:** Currently at a **3.8** GPA and recognized in the top **15%** of the program.
- **Achievements:** Golden Key International Honour, 3x Dean's Honor List, McMaster Honor Award Recipient (\$1000)

SKILLS

Programming: C/C++, Python, Java, Verilog, SystemVerilog, VHDL, SQL, HTML, CSS, JavaScript, MATLAB, R

Software: Git, Quartus II, Kiel, WaveForms, Simulink, LTSpice/PSpice, Quanser, AutoCAD, RStudio

Hardware: Oscilloscopes, Raspberry Pi, Analog Discovery 2, TI MSP 430, Rectifiers, Amplifiers, Multimeters, FPGAs

Management: Gantt Charts, Trello, Jira, Confluence, Scrum, Proofhub, Roadmaps, Asana, OKR/KPI Implementation

WORK EXPERIENCE

Wireless Network Operations Intern

May 2023 - Aug. 2023

Bell Canada

Scarborough, ON

- Administered and launched **9** capital projects across the GTHA alongside **800+** preexisting cell sites contributing to efficiently delivering quality fiber and cellular network coverage to **99%** of Canadians.
- Streamlined troubleshooting processes through creative innovations alongside advising a team of **34** technicians on prioritization strategies which efficiently saved company time by **11%**.
- Incorporated rectifiers and amplifiers to optimize electric signal strength from AC to DC voltage to optimize site power consumption by **15%**.

Radio Frequency Network Engineer Intern

May 2022 - Aug. 2022

Ericsson Canada Inc

Mississauga, ON

- Monitored a variety of radio frequency signals and bands for **300+** sites across the city of Jacksonville remotely and generated detailed site summaries for customers.
- Analyzed high VSWR through KPIs to further optimize radio network performance which boosted the efficiency of available network resources by **24%**.
- Assisted in the development of a Python script that generated client summary reports autonomously which removed excessive manual labor, improved productivity, and saved **40** minutes of company time per report.

PROJECTS

Hardware Implementation of an Image Decompressor

Sept. 2023 - Present

- Processed compressed data for a 320 x 240 pixel image received on an Altera DE2-115 board via UART interface and stored in an external SRAM.
- Developed a Verilog program using Quartus II to configure the FPGA to read and recover the compressed image to a VGA controller for display to a monitor.

Embedded 3D Spatial Mapping System

Jan. 2023 - Apr. 2023

- Integrated a 28BYJ-48 stepper motor with a VL53L1X time-of-flight sensor using infrared laser light to obtain 360-degree distance measurements.
- Implemented a C++ program using Kiel to configure digital I/O pins on an MSP 430 microcontroller for reading LiDAR sensor data through I2C serial communication.
- Developed a Python script to visualize time-of-flight sensor measurement data collected through UART communication from the MSP 430 in a 3D graphical representation using the comprehensive matplotlib library.

Artificial Pacemaker

Sept. 2022 - Dec. 2022

- Created a pacemaker model using Simulink to implement **8** different modes of autonomous heartbeat functionality for regulating **4** heart chambers on an NXP FRDM-K64F microcontroller.
- Developed a GUI using JavaScript that acted as a DCM for a user to control the pacemaker Simulink parameters as well as monitor the heart chambers through an e-gram display which was serially communicated through UART by the board.

Infrastructure for Self-Driving Vehicles

Jan. 2022 - Apr. 2022

- Guided a multidisciplinary team to design and simulate a highway infrastructure using Python which allows self-driven vehicles and human-driven vehicles to efficiently integrate at different percentages of autonomous vehicles.

EXTRACURRICULAR

Supportive Relations Executive

Aug. 2023 - Present

DeltaHacks X

Hamilton, ON

- Managed SR using Trello to obtain mentors, judges, and challengers for one of Canada's largest hackathons with **600+** attendees at McMaster University.

Outreach Specialist

May 2023 - Present

McMaster Design League

Hamilton, ON

- Networked with **25+** industry professionals to judge and mentor a UI/UX designathon and a CAD designathon which were successfully coordinated with around **340** registered participants each.