Syed Ali Raza

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EDUCATION

McMaster University **Sep 2020 - June 2025 | Hamilton, ON**

Bachelor of Computer Engineering & Management (CO-OP)

- Recipient of the 2020 McMaster Entrance Honor Scholar Award

WORK EXPERIENCE

Vanguard Financial **May 2023 - Aug 2023**

Data Analyst

- Collaborated closely with the accounting team, employing scripting skills in Python, Golang, & SQL to enhance the efficiency of data manipulation, analysis, and visualization for complex financial datasets.
- Exhibited strong problem-solving skills through the development of customized scripts that automate repetitive tasks, significantly improving operational workflows.

The Rec Source **July 2022 - Nov 2022**

B2B Marketing Manager

- Traveled to various company warehouses to promote & sell customized workforce solutions, securing multiple contracts valued in the six-figure range, consistently outperforming industry benchmarks.
- Initiated, organized, & led productive meetings with HR managers across Ontario, effectively cultivating & reinforcing positive relationships.

Go Sales **May 2022 - Aug 2022**

D2C Sales Consultant

- Leveraged sales best practices to successfully secure 68 TELUS smart home security contracts via D2D marketing, achieving a conversion rate of ~2% & exceeding sales targets by 44%.
- Engaged with over 100 prospects daily, generating an average of 10% qualified leads, demonstrating effective communication & lead generation skills.

PROJECTS

Franky - Rocket Leauge Machine Learning Bot | *Python, RLgym* **Feb 2024 - Present**

- Developed a bot using Python and RLGym, blending high level game sense with engineering expertise.
- Implemented reinforcement learning to enable autonomous adaptation and decision-making in dynamic game environments and conducted iterative testing to enhance the bot's competitive edge against human and AI opponents, with ongoing performance improvements.

Software Defined Radio | *C++, Python, Gnuplot* **Feb 2024 - Apr 2024**

- Developed DSP algorithms for mono/stereo FM demodulation & RDS processing in a team of four.
- Used C++ for programming & Python for validation, targeting real-time performance on the Raspberry Pi.
- Improved data processing efficiency with multithreading, meeting strict real-time system constraints.

Hardware-based Image Decompressor | *Verilog, Quartus, Modelism* **Oct 2023 - Dec 2023**

- Created a real-time image decompression system using Verilog state design in a team of two.
- Interpolated & converted YUV to RGB data with respect to latency & hardware resource constraints.
- Managed data transmission via UART to an Altera DE2-115 FPGA, where data is decoded & stored into the SRAM, then directed to the VGA controller for monitor display.

LIDAR Spatial Mapper | *C, Python, Numpy, Open3D API* **Feb 2023 - Apr 2023**

- Engineered a 3D scanning system using a VL531X ToF sensor, 28BYJ-48 stepper motor, & the MSP432E401Y microcontroller for enclosed spatial mapping.
- Implemented I2C & UART protocols for system control & PC data transfer.
- Converted raw distance data to Cartesian coordinates & rendered 3D point clouds with Open3D & Python.

Model Pacemaker | *MATLAB, Python, Simulink* **Sep 2022 - Dec 2022**

- Co-developed a digital pacemaker simulation in a team of four using MATLAB's Simulink & Python.
- Implemented atrial & ventricular pacing along with sensing algorithms for various operational modes.
- Designed an intuitive GUI with Python, Tkinter & pySerial for effective system interfacing.

SKILLS

- **Computer Languages:** C++, C, Verilog, Python, Java, JavaScript, TypeScript, SQL, Go, & MATLAB.
- **Frameworks:** React.js, Chrono, TensorFlow, Tkinter, NumPy, SciPy, Pillow, Matplotlib, Pandas.
- **Tools:** Git, Quartus Prime, Simulink, ModelSim, AWS, Unreal Engine, PSpice, LTSpice, Adobe Creative Suite & Microsoft Office Suite (Word, Excel, PowerPoint, Outlook, & PowerBi)
- **Relevant Courses:** Algorithm Design & Analysis, Logic Design, Software Development, Signals & Systems, Microprocessor Systems Project, Advanced Probability, Electronic Circuits & Devices II, Digital Systems Design, Control Systems, Communication Systems, Computer-Aided Engineering.