Syed Ali Raza

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EDUCATION

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

Bachelor of Computer Engineering & Management (CO-OP)

- Recipient of the 2020 McMaster Entrance Honor Scholar Award

SKILLS

- **Computer Languages:** C++, C, Verilog, Python, Java, JavaScript, CSS, TypeScript, SQL, & 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.

WORK EXPERIENCE

Data Analyst | *Mississauga, ON* | *Vanguard Financial* **May 2023 - Aug 2023**

- Assisted in managing financial records for 30+ business clients, leveraging skills in Python & SQL to enhance the efficiency of data manipulation, analysis, and visualization for financial datasets.
- Created a Python script to automate the reconciliation of bank statements, processing an average of 1,000 transactions per week with > 99% accuracy & developed Excel macros using VBA.
- Contributed to implementing a new SQL database system for improved data organization & data migration.

B2B Marketing Manager | *GTA, ON* | *The Rec Source* **July 2022 - Nov 2022**

- Drove sales and marketing initiatives for a team at The Rec Source selling customized workforce solutions.
- Travelled across the GTA to various company warehouses, securing 4 high value contracts ($100k+).
- Initiated, organized, & led productive meetings with HR managers across Ontario, fostering strong relationships while overseeing and mentoring a team of 3 marketing representatives.

B2C Sales Consultant | *GTA, ON* | *Go Sales* **May 2022 - Aug 2022**

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

PROJECTS

Franky - Rocket League Machine Learning Bot | *Python, RLGym API,* **Jan 2022 - Apr 2022**

- Developed a bot using Python and RLGym, blending high level game sense with engineering expertise.
- Implemented deep reinforcement learning techniques using the RLGym API to enable real-time decision making and responses to various in-game scenarios.

Software Defined Radio | Linux, *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 within the Linux ecosystem on a 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, for decoding & storage in the SRAM, then directed to the VGA controller for monitor display, overcoming memory addressing challenges.

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, & a MSP432E401Y microcontroller for spatial mapping of enclosed areas.
- Implemented I2C & UART protocols for data transmission from sensor, to microcontroller, then to PC.
- 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.