

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, C# Verilog, Python, Java, JavaScript, CSS, TypeScript, SQL, MATLAB.
- **Frameworks:** React.js, Chrono, TensorFlow, Tkinter, NumPy, SciPy, Pillow, Matplotlib, Pandas, PyTorch.
- **Tools:** Git, Github, Quartus Prime, Simulink, ModelSim, Azure, AWS, Unreal Engine, PSpice, Salesforce, Visual Studio, Kubernetes, Docker, Tableau.
- **Relevant Courses:** Algorithm Design & Analysis, Logic Design, Software Development, Microprocessor Systems Project, Advanced Probability, Electronic Circuits & Devices II, Digital Systems Design, Control Systems, Communication Systems, Computer-Aided Engineering, Computer Architecture.

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, PyTorch, RLGym, NumPy

Jan 2022 - Apr 2022

- Developed a bot using Python and RLGym, blending high level game sense with engineering expertise.
- Using RLGym, implemented behaviors such as positioning, velocity management, and movement.
- Trained & implemented deep reinforcement learning techniques using RLGym & PyTorch using state logic, 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 management challenges.

LIDAR Spatial Mapper | C, Python, NumPy, Open3D

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, 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.