

MOHAMMAD SAAD

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EDUCATION

Carleton University – Expected Graduation 2027
B. A. Honours Computer Science

GPA: 11.0/12

Ottawa, ON
Sept. 2023 – Present

Coursework: Systems Programming, Discrete Structures, Abstract Data Types and Algorithms, Linear Algebra II

WORK EXPERIENCE

Department of National Defence VCDS
Junior Data Analyst

Jan. 2025 – Present

- **Increased** data accuracy and strategic insights by **managing and analyzing large datasets**, leading to faster decision-making across the VCDS branch.
- **Reduced reporting time by 40%** by designing and developing interactive **dashboards in Power BI**, improving accessibility for key stakeholders.
- **Boosted efficiency by 30%** by **automating data workflows and reporting processes in Python**, minimizing manual work.
- **Enhanced database performance** by **optimizing data extraction, transformation, and analysis**, ensuring seamless integration and faster query execution.

Crispys Resto Grill
Crew Supervisor

Aug. 2020 – Jan. 2025

- Led a team of 8-10 employees, ensuring seamless operations and high customer satisfaction.
- Introduced innovative workflow systems, enhancing overall restaurant **efficiency** and **speed**.

PROJECTS

UFC Predictor App | Full-stack AI-powered Web App (PyTorch, AWS EC2, Flask, SQLite, NodeJs, Docker)

- Built and deployed a machine learning web app that predicts UFC fight outcomes with up to 93% accuracy in championship matches, using a PyTorch neural network and an ensemble of XGBoost and logistic regression models.
- **Designed and trained** a bias-aware deep learning model incorporating fighter stats, reach/weight disparities, and style archetypes to output **real-time win probabilities with confidence scores**, improving fairness across divisions.
- Developed a scalable Flask API containerized with Docker and deployed on an NGINX-reversed AWS EC2 instance, reducing inference latency by 40% under concurrent load.
- Engineered a custom SQLite database to store and query over 2,400+ fighters and 1,000+ historical fights, achieving efficient retrieval and dynamic user-driven queries.
- Scraped and processed real-world data (UFC.com, Wikipedia, Sherdog) via BeautifulSoup to auto-update fighter images and bios, ensuring content relevance with fallback strategies.
- Architected an API-first infrastructure enabling future integration with mobile apps and external sports betting platforms.

Multithreaded Simulation Game with Dynamic Memory Management (C in a Linux Environment)

- Designed and implemented a **multithreaded hunting simulation** in C within a Linux VM, enabling independent agent behavior and concurrent execution.
- Used **Pthreads** to spawn parallel hunter threads, increasing simulation realism and CPU efficiency.
- Managed dynamic memory using **pointers** for fast, space-efficient access to hunter and artifact data structures in shared memory.
- Employed **semaphores** to coordinate access and prevent race conditions or deadlocks, ensuring data integrity during thread execution.

Peer-to-Peer Networking System (Python)

- Collaborated with a team of developers to design and implement a P2P application with 4 nodes acting as both clients and servers, enabling real-time data exchange using low-level socket and threading libraries.
- Implemented concurrency management and robust error handling, optimizing communication flow and ensuring system reliability under network stress.

TECHNICAL SKILLS

Languages

Python, Rust, Kotlin, C/C++, Golang, TypeScript, Tailwind CSS

Development Tools

MySQL, PowerBI, Linux, Docker, Valgrind, Git/GitHub

Cloud and DevOps Tools

AWS (EC2, S3), Docker, Azure DevOps, Jenkins, Kubernetes

Frameworks & Libraries

React, Flask, Django, Spring Boot, PyTorch, NumPy, pandas, scikit-learn