

MUHAMMAD ABDULLAH

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EDUCATION

University of Saskatchewan

Bachelor of Science in Computer Science

Saskatoon, SK

Expected Graduation: April 2028

PROJECTS

Space Mission Tracker | Django, PostgreSQL, React, DRF, JWT, Launch Library 2 API

- Built a full-stack mission control portal with a **Django REST Framework** backend and **PostgreSQL** database, implementing **JWT authentication** across protected watchlist and mission log endpoints; deployed on **Oracle Cloud** via **systemd** with **GitHub Actions** CI/CD.
- Engineered a **multi-source data pipeline** synthesizing 1,000+ global launches from **Launch Library 2** and the **SpaceX API**, with a **database caching layer** that upserts responses and serves stale data on rate-limit failures.
- Built a **WebGL 3D launch globe** mapping launchpad coordinates via spherical-to-XYZ projection, a live **ISS tracker** with interpolated orbital rendering, and a **Space Weather panel** powered by **NASA's DONKI API**.

Rift IQ – AI LoL Coach | React 19, FastAPI, Tailwind CSS, Groq, Riot API

- Built a full-stack coaching platform with a **React 19** frontend and **async FastAPI** backend, fetching ranked match data concurrently via **httplib** and the **Riot Games API**; deployed on **Oracle Cloud** with **GitHub Actions** CI/CD.
- Engineered a per-game scoring engine (0–100) ranking each player across **9 lobby-relative metrics** including KDA, CS/min, vision score, and damage share; used scores to compute a **match win probability predictor**.
- Integrated **LLaMA 3.3 70B** via **Groq** with a structured system prompt to generate per-game coaching tips grouped by Vision, Combat, and Economy based on real stat deltas.

Movie Recommender | Python, scikit-learn, pandas, NumPy, Streamlit

- Built a **collaborative filtering** recommendation engine on the **MovieLens** dataset using **cosine similarity** on a user-item matrix via **pandas** and **NumPy**.
- Engineered a **TF-IDF content-based fallback** using **scikit-learn** to handle cold-start cases where collaborative filtering yields insufficient signal, blending genre, tag, and title features into a hybrid ranking pipeline.
- Deployed an interactive **Streamlit** web app exposing the full recommendation pipeline, with real-time filtering by genre and minimum rating threshold across **100,000+ ratings** from the MovieLens dataset.

EXPERIENCE

Computer Science Student Society (CSUS)

Technical Committee Member

Sep 2025 – Present

Saskatoon, SK

- Manage technical infrastructure for departmental **hackathons**, ensuring stable environments for **100+ participants**.
- Lead peer-learning workshops on **Git, Bash, and debugging** and mentor students through code review, reinforcing fundamentals in **Python and Java**.

Engineering For Kids

STEM Camp Instructor

Jun 2024 – Aug 2025

Calgary, AB

- Instructed STEM summer camps for grades K–8, delivering hands-on projects in **robotics, coding, and engineering design** for groups of **10–20 students** across two consecutive summers.
- Adapted technical concepts across age groups and guided students through the **engineering design process** to develop structured problem-solving skills.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, Java, C, SQL, HTML/CSS, Bash

Frameworks & Tools: React 19, Django, FastAPI, DRF, Vite, Tailwind CSS, Streamlit, Git/GitHub, Linux CLI

Databases & Cloud: PostgreSQL, SQLite, Oracle Cloud, Vercel, GitHub Actions, systemd

APIs & Concepts: Plaid, Riot Games, Launch Library 2, Groq (LLaMA 3.3 70B), REST API Design, JWT Auth, Machine Learning