Ahmad Saleem Mirza

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EDUCATION

University of British Columbia — BC, Canada
Bachelor of Science in Computer Science — *Sep. 2020 – Aug 2024*
- Dean's Honor List
- **CGPA**: 3.95

TECHNICAL SKILLS

Languages: Java, Python, SQL, JavaScript, HTML/CSS, PHP
Frameworks/ Libraries: React, Node, Express, Flask, MySQL, PostgreSQL, Firebase, REST APIs, Jest, OpenCV
Developer Tools: Git, Docker, JupyterLab, VS Code, IntelliJ, Eclipse, Android Studio, Linux, Bash
AI/ML: TensorFlow, PyTorch, Prompt Engineering, Generative AI, AutoGPT, AutoGen, CrewAI
Data Analytics: pandas, NumPy, Matplotlib, seaborn, Tableau, Excel

EXPERIENCE

Natural Language Processing Research Assistant — May 2024 – Present
University of British Columbia — *BC, Canada*
- Currently working on optimizing offline A/B testing for **recommender system policies**
- Leveraged **agentic frameworks** like **AutoGen** and **CrewAI** with popular generative AI **LLMs (GPT, Gemini, Mistral, LLaMa)** in **Python** to improve evaluation performance by up to **80%**
- Conducted data extraction using **T-SQL** for topic modeling with **BERTopic**, pre-processing datasets with **1.5 million rows** using **Excel (PowerQuery)** and **pandas (Python)**, publication pending in **Microsoft Research**
- Analyzed model output to measure validation accuracy for >**1000 topic predictions**

Software Engineer — May 2024 – Aug 2024
University of British Columbia — *BC, Canada*
- Created a batch OMR marking system for UBC to streamline **creation and grading of bubble sheet exams** that **reduced marking times by 95% from 30 mins to 300 secs** per batch
- Architected **REST APIs** in **ExpressJS** for class and exam creation, enrollment, grading and reporting, creating **60+ robust and modular backend functions** to manage asynchronous data handling for **23 React pages**, with end-to-end tesing using **Jest**
- Leveraged **Flask APIs** to integrate an exam scanner in **OpenCV** and rapid scanning batches of **200 exams**
- Utilized **Docker** for deployment-ready development, configuring **3 shared volumes** for data handling and **Docker Stats** for profiling container workloads

Undergraduate Linguistics Academic Assistant — Aug 2022 – Sep. 2022
University of British Columbia — *BC, Canada*
- Recorded academic videos teaching the Urdu alphabet and Nastalīq writing system to be published on YouTube and taught in future university courses by the Department of Asian Studies

PROJECTS

AI Game of Amazons Bot | *Java, Git, IntelliJ*
- Created an AI game agent from scratch with the **Monte Carlo Tree Search algorithm** to play the Game of Amazons, with a GUI and support for real time head-to-head matches
- Implemented various search algorithms, including a custom **BFS, UCT heuristic** and **parallel computing** libraries to pick the best of approximately **1,000,000** moves, winning **1st** place in class tournament division

Aquademia LMS | *mySQL, PHP, CSS, JavaScript, Git, Agile Development*
- Led the development of **Learning Management System (LMS)** from conception to deployment with functionality for students, teachers and administrators
- Utilized **PHP, MySQL, CSS, and JavaScript** to implement core features such as course creation, enrollment, assignment creation with automatic quiz grading, manual submission grading, and user preference management
- Managed version control with **Git** and constructed **CI/CD pipelines** with **GitHub Actions** and custom **Bash** scripts

Winning Strategies in Rocket League | *Python, numpy, pandas, seaborn, matplotlib, JupyterLab, Tableau*
- Led team to analyze hidden trends from **18,740 online matches** for global e-sports tournament **Rocket League Championship Series 2021-2022**
- Automated **exploratory data analysis** (EDA) with **pandas** to illustrate powerful data insights with **seaborn** and **matplotlib** about game winning strategies in **Jupyter notebooks**
- Designed powerful dashboards via **Tableau** to help examine the data under different scenarios