

Samir Mahmood

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EDUCATION

American University of Sharjah

Bachelor of Science in Computer Science

Minor in Data Science

Sharjah, United Arab Emirates

Aug 2020 – Jun 2024

Won **2nd position amongst 30+ Computer Science teams** at the College of Engineering Senior Design Projects Competition for a cash prize of AED 1500.

Received **Undergraduate Research Grant** worth **AED 4500** (2023-2024)

Received several **scholarships**: Outstanding Student Scholarship, Shabana & Faizal Endowed Scholarship, Bybit Operational Scholarship.

PROFESSIONAL EXPERIENCE

Crescent Petroleum

Software Engineer

Sharjah, United Arab Emirates

Jun 2024 – Sep 2024, Internship

- Developed a chatbot system in **Python** powered by the Azure OpenAI API (GPT-4o), utilising prompt engineering and combining LLM agents to enable **text-to-SQL** and **text-to-graph** capabilities over a **PostgreSQL** database (**Retrieval Augmented Generation/RAG**).
- Developed a **Django** based web application for requesting and modifying LLM-generated summaries of text retrieved from a **MySQL** database.

Petrofac

Data Scientist

Sharjah, United Arab Emirates

Jun 2023 – Aug 2023, Internship

- Built a **RAG** system in **Python** using **LangChain** for intelligent document Q/A using an open source LLM (LLaMA 2).
- Developed **Power BI** reports and prepared mobile views for existing reports.
- Participated in a training rotation between different IT verticals (AI/ML, Data Engineering, Business Intelligence), being exposed mainly to **Python**, **Power BI**, **SQL**, and **Azure**.
- Monitored KPI alerts and triggers on a daily basis through an internal tool.

CSE Department, American University of Sharjah

Computer Science Grader

Sharjah, United Arab Emirates

Jan 2023 – May 2023, Part-time

- Graded C++ programming assignments and provided learning feedback to over 60 students as a grader for the course CMP 305: Data Structures and Algorithms.

ICT & IT Security Department, American University of Sharjah

IT Student Worker

Sharjah, United Arab Emirates

Aug 2021 – Dec 2021, Part-time

- Provided technical support to students and faculty across 3 buildings under the College of Engineering.
- Performed upgrades and maintenance of software and hardware in technical labs.

SKILLS

Languages: Python, C++, Java, SQL, HTML/CSS, JavaScript

Technologies: Version control (GitHub), Power BI, [Microsoft Certified: Azure Fundamentals](#), Django

PROJECTS

Hierarchical Object Detection and Real-Time Text Recognition for UAE Traffic Signs | [GitHub](#)

Graduation Design Team Project

- Lead the integration of the hierarchical object detection (YOLOv8) system with the text recognition (PARSeq) system.
- Annotated images for the development of a new local text recognition/object detection dataset containing over 1000 images of UAE traffic signs.

Scene Text Recognition Model for Automated Jet Blade Inspection | [GitHub](#)

Graduation Design Team Project Sponsored by Lufthansa Technik

- Researched scene text recognition techniques and explored state-of-the-art architectures (PARSeq) in the context of intelligent industrial automation.
- Developed a complete solution for Lufthansa Technik's inventory management needs, including a front-end user interface application (**Flutter**), back-end deep learning system (**Flask, Keras OCR**), and a **Firebase** database system.

Gender Classification from Arabic Handwriting | [GitHub](#)

Course Project

- Developed a machine learning pipeline consisting of manual feature extraction followed by an SVM.
- Trained the pipeline for classification of writers based on gender, using images of handwritten text.

Inventory and Crafting Management Database System | [GitHub](#)

Course Project

- Developed an inventory management system for Minecraft using Oracle **SQL** and Java JDBC.
- Designed a UI for the inventory management system using **Java Swing**.

EXTRACURRICULAR ACTIVITIES

Astronomy Club

American University of Sharjah

Vice President

Spring 2024

- Spearheaded the organisation of a successful desert stargazing and barbecue trip for over 150 attendees, in collaboration with 4 other university clubs.
- Led and managed the club and its subcommittees (Events, Media, PR) alongside the President.
- Conducted hiring interviews for various club positions.

Astronomy Club

American University of Sharjah

Events Team Member

Spring 2023, Fall 2023

- Planned and executed club events including Club Fair and stargazing nights.

Music Club

American University of Sharjah

Treasurer

Spring 2023

- Managed financial affairs and event budgeting for the club, including record-keeping and seeking funding opportunities.
- Assisted the team with event planning and execution.

Engineering Shadow Program

American University of Sharjah

Mentor

Fall 2022, Spring 2023

- Selected by the College of Engineering to mentor exceptional high school students, allowing them to experience a day in the life of an AUS engineering student.

Astronomy Club

American University of Sharjah

Media/PR Team Member

Spring 2021

- Developed social media strategy and produced social media content for the club's Instagram account.
- Assisted the events team in organising and hosting events.
- Liaised between the club and the wider university community.

INTERESTS

Astronomy, Astrophotography, Technology, Guitar, Motorsport, Esports

LANGUAGES

English, Hindi/Urdu