

Samir Mahmood

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EDUCATION

American University of Sharjah

Bachelor of Science in Computer Science

Minor in Data Science

Sharjah, UAE

Aug 2020 – Jun 2024

Won **2nd position amongst 30+ teams** at the College of Engineering Senior Design Projects Competition.

Received **Undergraduate Research Grant** (2023-2024)

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

PROFESSIONAL EXPERIENCE

Crescent Petroleum

Software Engineer

Sharjah, UAE

Jun 2024 – Sep 2024, Internship

- Developed a chatbot in **Python** powered by the Azure OpenAI API, combining LLM agents to enable **text-to-SQL** and **text-to-graph** capabilities over a **PostgreSQL** database (**RAG**).
- Developed a **Django** based web application for LLM-enabled text summarisation over a **MySQL** database.

Petrofac

Data Scientist

Sharjah, UAE

Jun 2023 – Aug 2023, Internship

- Built a **RAG** system in **Python** using **LangChain** for intelligent document Q/A with 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 to **Python**, **Power BI**, **SQL**, and **Azure**.

CSE Department, American University of Sharjah

Computer Science Grader

Sharjah, UAE

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, UAE

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 YOLO with Real-Time Text Recognition for UAE Traffic Signs | [GitHub](#) | [Preprint](#)

Graduation Design Team Project

- Lead the integration of the hierarchical object detection (YOLOv8) system with the text recognition (PARSeq) system, developing the real-time pipeline as well as the inference visualisation.
- Annotated images for the development of a novel text, panel, and symbol detection dataset containing over 1000 images of UAE traffic signs.

Telegram Bot for Astrometric Image Annotation | [GitHub](#)

- Developed a Telegram bot in **Python** that enables users to upload astronomical images and receive annotated outputs with precise astrometric calibration.
- Integrated local processing of images using the astrometry.net suite to determine celestial coordinates, star field overlays, and other metadata.
- Handled asynchronous communication with users, image uploads, and result delivery via the Telegram Bot API, ensuring a smooth and interactive user experience.

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