Saad Mohammed Anis

+44 7538 324628   saadmohammedanis@gmail.com   ⚙ saadanis

Glasgow, Scotland   ⬤ saadanis.com   in saadxanis

Education

University of Glasgow   **Sep 2022 – Sep 2023**

M.S. in Computing Science

- Graduated with **Distinction.**
- Key Courses: Information Retrieval, Deep Learning, Text-as-Data (NLP), Big Data, HCI, Human-Centered Security.

Qatar University   **Sep 2017 – May 2022**

B.S. in Computer Science   *GPA 3.83*

- Graduated with **High Distinction.**
- **Dean's List** for six semesters.
- Key Courses: Algorithms, Data Structures, Databases, Web Development, Operating Systems, Machine Learning.

Experience

Research Associate   **Mar 2024 – Present**

Qatar University

- Led the development of a platform for oral cancer detection, overseeing system design and full-stack implementation.
- Managed and mentored a team of five interns, delegating tasks and guiding the project to successful milestones.
- Architected and designed the transition to a new version of the platform using software development best practices.
- Designed and implemented the platform using FastAPI and React, ensuing robust performance and scalability.
- Developed an iOS application using Swift, allowing users to detect oral cancer using on-device deep learning models.

Software Engineering Intern   **May 2021 – Aug 2021**

Qatar Computing Research Institute

- Developed a Flask-based social media analytics web service, with containerization using Kubernetes and Docker.
- Integrated the Angular frontend with RxJS and NgRx to implement reactive state management.
- Implemented frontend query validation using Angular's validators and resolved existing inefficiencies and issues.
- Conducted unit tests for backend functionalities using the Python unittest framework.

Projects

Bayan: Arabic Search Engine   **Senior Year Project, Qatar University**

- Developed an Arabic search engine for Islamic jurisprudence queries using Flask, PyTorch, JavaScript, and SQLite.
- Trained a transformer-based re-ranking model, outperforming all prior submissions with a macro F1 of 81.5%.
- Surpassed Google Search's results by obtaining an NDCG@10 score of 0.93 on the test set.
- Engineered a system to extract, score, and annotate answers from webpages using a corpus in real-time.
- Led the web development efforts and built features including user management, search history, and preferences.
- Deployed the application using NGINX and Gunicorn, employing SQLite for data storing, caching, and logging.

Language Server Implementation using LSP4J   **Master's Dissertation, University of Glasgow**

- Developed a language server for a custom programming language using Java, Maven, LSP4J, and TypeScript.
- Engineered language parsers and visitors using ANTLR, enhancing functionality.
- Implemented error and warning highlighting features, along with intelligent auto-completion suggestions.
- Conducted user studies resulting in a 42% improvement in coding efficiency and 100% in coding effectiveness.

iOS Application Development

- Created applications using Swift and SwiftUI for daily routines, and listing and filtering flags, alongside various others.
- Integrated Core Data into applications for efficient data management.

Miscellaneous Deep Learning Projects

- Compared different classifiers, finetuned a roBERTa model to achieve an accuracy of 86.2% and macro F1 of 82.0%.
- Developed a CNN and used a finetuned ResNet50 model to classify cancer cell images with an accuracy of 98.0%

Skills

Languages	Python, Java, Swift, JavaScript, TypeScript, PHP, SQL, HTML, CSS, C#, C++, C
Frameworks	Flask, FastAPI, Angular, SwiftUI, React, Node.js, Laravel, PyTorch, Transformers, Apache Spark, LSP4J
Tools	Maven, Git, Docker, Kubernetes, Jupyter, NGINX, Gunicorn, ANTLR, Wireshark, Packet Tracer