AREEB SHAFQAT

Al Engineer

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PROFESSIONAL PROFILE -

I am an AI Engineer at Arabic Computer Systems with a strong mathematical and data science background strengthened by a keen aptitude for problem solving. My academic foundations are primarily a bachelor's in mathematics and Physics from Warwick University, built upon with a master's in e-Business Management. I specialized in harnessing data science methodologies to address complex business problems, notably devising a timetabling algorithm utilizing GANs and evolutionary algorithms for my dissertation project.

My professional trajectory has been diverse but focusing on embracing new data science technologies such as through my AI & Data bootcamp at AiCore and completing a data science fellowship focused on change detection algorithms to identify regions afflicted by natural disasters. My current role at ACS allows me to explore the exciting landscape of AI and I am eager to embrace new, forward-thinking, and ambitious opportunities in this field.

- SELECTED SKILLS AND EXPERTISE -

- Fast Al
- Python
- JavaScript
- Apache Spark
- BeautifulSoup
- PCA
- Matplotlib
- HTML & CSS

- MySQL
- PostgreSQL
- AWS RDS
- NLP
- Selenium
- FastAPI
- F
- Pytorch

- SciPy
- Prometheus
- Pandas
- Grafana
- TensorFlow
- Git & GitHub
- Tableau
- Docker

- CAREER SUMMARY -

Al Engineer at Arabic Computer Systems

July 2023 - Current

- Leveraged Laravel, MYSQL, and Docker for efficient data migration and develop a full-stack costing sheet app.
- Translated and wrote a project scope document for an AI related project to submit to a contractor.
- Utilized agile project management methodologies for developing a product requirements document.
- Experimented with WhisperAl and Hugging Face Models to evaluate Arabic speech-to-text systems.
- Communicated with senior management to identify problems and enhance the costing sheet application.

Data Science Fellowship at Fellowship.AI

Jan 2023 – Apr 2023

In this role, I collaborated with a team of data science fellows to <u>research and implement</u> state-of-the-art disaster detection algorithms using computer vision techniques such as Siamese Networks on satellite imagery datasets.

- Achieved 91.3% IoU accuracy on Levir-CD with SarasNet after making corrections to the original repository.
- Fine-tuned SarasNet and other models such as ResNET, VGGNet, DeepLab to other relevant datasets
- Researched and wrote weekly summary reports on latest papers applying AI to solve industry problems

Data Collection Pipeline (https://github.com/Areeb297/Data-Collection-Pipeline)

Created a flexible web scraper using Selenium. This scraper is a class which can easily be repurposed to virtually any website allowing companies to quickly gather data for marketing, market research, competitor analysis etc.

- Developed a python module to scrape best-selling and most-wished-for Amazon product data using Selenium
- Stored data on AWS S3 and RDS using SQLAlchemy and PostgreSQL and performed unit testing on application
- Containerized the application with Docker, deployed to EC2 instance and published packaged on Pypi
- Set up CI/CD pipeline using GitHub actions, monitored containers with Prometheus and Grafana to visualize metrics using dashboards

Facebook Marketplace Search Ranking (https://github.com/Areeb297/Facebook-Marketplace-Recommendation)

Trained a multimodal model that combines images and text to generate embedding vectors to create a search index

- Leveraged transfer learning with pre-trained ResNet50 and Bert to achieve 85% test accuracy
- Developed an API with three endpoints using FastAPI on AWS EC2 instance with docker-compose

Student Researcher | Warwick Data Science Society

Jan 2022 - Apr 2022

This fascinating role saw me conducting a <u>study on the UK elections</u> using clustering analysis. This project entailed conducting feature engineering and dimension reduction (UMAP, PCA) on a dataset covering 650 constituencies.

- Devised interactive functions for the user to experiment with 5 clustering algorithms and hyper-parameters to get varied results.
- Wrote this blog post on the WDSS website for the justification significance and outcome of this project.

EDUCATION

m Master of Science in eBusiness Management (MSc) – Distinction | Warwick University

2021

- Computational Statistics with Python, Cloud Native Computing, Data Science and Machine Learning
- Used tools such as Tableau, WordPress, Data Cleaning, and developed dashboards, NLP, and ML pipelines.
- Created an evolutionary algorithm combined with a GAN to automate timetabling for my thesis.

m Bachelor of Science in Mathematics & Physics | Warwick University

2020

Linear Algebra, Analysis, Python Programming, Arabic II & III, Mathematical Statistics, Calculus.

PROFESSIONAL DEVELOPMENT

m Google Business Intelligence Google on Coursera	2023
⚠ IBM Advanced Data Science IBM Skills Network on Coursera	2022
	2022
⚠ IBM Machine Learning IBM Skills Network on Coursera	2021
m IBM Data Science │ IBM Skills Network on Coursera	2021