

Tariq Ameer

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EDUCATION

The University of Sheffield

Bachelor of Science in Computer Science

Sheffield, UK

Sep. 2021 - Jul. 2024

Hills Road Sixth Form College

Computer Science, Mathematics, Physics, Extended Project Qualification

Cambridge, UK

Sep. 2018 - Jul. 2020

RELEVANT COURSEWORK

Courses: Data Structures and Algorithms, Automata and Complexity, Software Testing, Object-Oriented Programming, Data-Driven Programming, Systems Design and Security, Functional Programming, Text/Speech Processing

PROJECTS

Dissertation Project | *Python, NumPy, pandas*

May 2024

- Developed a linear regression model to predict the level of polarisation and disagreement in social network discussions from features of the network
- Parsed relevant data from a labelled X dataset to train the model and cleansed invalid data from the dataset
- Achieved a model that outperformed baseline models, enabling the detection of polarisation and disagreement using a non-labelled dataset

Image Sharing Progressive Web App | *Express, JS/HTML/CSS, MongoDB, Tailwind, Socket.IO*

May 2024

- Built a PWA for users to share images of their plants, explore other users' posts, and discuss a specific post with others
- Enabled users to share the location of their posts using an interactive map built with Leaflet
- Displayed additional details about a plant under the post, fetched from DBpedia using the SPARQL endpoint
- Cached the data in IndexedDB to allow the app to function offline
- Implemented a live chat using Socket.IO, allowing users to discuss a post in real-time

Data Management Web App | *Ruby on Rails, RSpec, JS/HTML/CSS, SQL, Bootstrap, Chart.js*

May 2023

- Designed a web app to manage and visualise data using the MVC pattern
- Managed a relational database for the app using Postgres
- Created live data visualisations from the data using Chart.js
- Led a team of 7 using Agile development to deliver to the client in a 4 month period
- Discussed requirements with the client and iterated on the software over the development cycle

Word Search Puzzle Solver | *Python, NumPy, SciPy, Matplotlib*

Dec. 2022

- Developed a solution to identify all words in a word search puzzle, given a set of feature vectors from an image of a word search and a target list of words
- Classified letters with ~99% accuracy using PCA feature reduction
- Used a k-nearest neighbour classifier in order to solve the word search with 100% word accuracy on a grid with imperfect letter classification
- Implemented a breadth-first search algorithm to find all words in the grid from the list of target words, using pruning where appropriate to improve the efficiency of the search

TECHNICAL SKILLS

Languages: Java, Python, C++, Ruby, JS/HTML/CSS, SQL

Technologies: Git, JUnit, Ruby on Rails, RSpec, NumPy, SciPy, pandas, Tailwind CSS, Bootstrap