SHAIK ASAADUDDIN KHWAJA

Singapore Citizen | shaikasaaduddink@gmail.com | (65) 8699 3240 | linkedin.com/in/shaik-asaad

EDUCATION

University of Cambridge, United Kingdom *Oct 2021 - Jun 2024*
Bachelor of Arts (Hons) in Natural Sciences - Physics
- Relevant Coursework: Statistics, Mathematical Methods

TECHNICAL SKILLS

Programming Languages: Python, SQL, JavaScript, LaTeX, Markdown, VBA, PowerShell
Libraries, Frameworks, & Tools: Numpy, Pandas, Scikit-learn, Transformers (Huggingface), Flask, Dbt, Cloud Services (*AWS*: Bedrock, API Gateway, *Google*: Google Maps Platform, BigQuery)
Certifications: ML Specialisation - DeepLearning.AI/Stanford University, AWS Cloud Practitioner Essentials, dbt Fundamentals, Google Cybersecurity Professional Certificate (*in progress*)

WORK EXPERIENCE

Undergraduate Research Intern *Jun 2023 - Sep 2023*
Cavendish Laboratory: Department of Physics, University of Cambridge, United Kingdom

- Refined the department's experimental physics teaching resources, conceptualizing 2 new projects and implementing improvements in 3 existing projects
- Developed 2 new Python demonstrations and re-factored 2 existing demonstrations, doubling the extent of current physics demonstrations, to effectively explain and demonstrate concepts such as Fast Fourier Transforms and Diffraction
- Conducted thorough data analysis of 3 existing experiments to identify over 4 previously undocumented sources of error and devised modifications to fix these errors

Software Engineer Intern *Aug 2022 - Sep 2022*
Cow Town, United Kingdom

- Collaborated with team members across 3 different time zones to design a proof-of-concept app for a start-up that facilitates carpooling in rural areas
- Implemented Google Maps APIs with Python to generate optimal meeting points for drivers and passengers obtaining an approximately 2x speedup over the existing manual matching process
- Formulated different methodologies for matching passengers and drivers to minimise the cost of making API requests, reducing the number of API calls by about 20%

LEADERSHIP

Co-President, Cambridge University Scientific Society *May 2023 - Apr 2024*

- Directed the planning and publicity of over 10 social and academic events annually, including the annual Garden Party which was held in collaboration with 4 other societies and attended by about 90 guests
- Successfully secured and hosted eminent scientists as speakers, including Nobel laureates and leading researchers for the Society's weekly talks which attract up to 100 attendees
- Revamped the Society's sponsorship strategy generating over £300 in financial backing to support the Society's goals

Social & Safety Officer, St Edmund's College Boat Club *Oct 2022 - Jun 2023*

- Organised the annual Boat Club Dinner for approximately 60 participants; negotiated with college administrators to approximately halve ticket prices by opening the dinner to alumni and other students
- Supervised all technical and organisational safety compliance matters related to the operation of the boat club ensuring the successful completion of British Rowing's annual safety audit

PROJECTS

A Custom ChatGPT Chatbot That Provides Employment-Related Legal Assistance

- Led a team of lawyers in Cambridge's LLM x Law Hackathon to carefully curate legal data and optimise the prompt structure to develop a chatbot that can ask legally relevant follow-up questions to the user before suggesting potential legal claims the user has grounds for
- Utilised few-shot prompting to improve the relevance and accuracy of the chatbot's responses to users' queries
- As an extension, implemented the same chatBot by setting up a retrieval augmented generation pipeline with the LLAMA 3 8B model hosted on AWS Bedrock

Inspection of Coated Hydrogen Transportation Pipelines (Published in a special issue of MDPI's *Applied Sciences*)

- Co-authored a literature review that surveyed over 100 pieces of literature to examine the effectiveness of different inspection techniques in coated hydrogen pipelines - important for using hydrogen as a clean energy resource