

Maaha Ahmad

☎ (+44) -7397038023 | ✉ maahaahmad99@gmail.com | 🏠 maahma-portfolio | 📷 maahma | 🌐 maaha-ahmad

Summary

A recent Computer Science graduate seeking exciting roles in tech. Passionate about applying technical knowledge to solve real-world problems, demonstrated through projects and internships. A super nerd who enjoys expanding skills, whether it's exploring new programming languages, frameworks, or crafts. Eager to contribute to and grow within a full-time role that uses and enhances my knowledge in Machine Learning and Software Engineering.

Education

The University of Sheffield

Sheffield, England

MSC IN COMPUTER SCIENCE WITH SPEECH AND LANGUAGE PROCESSING - ACHIEVED DISTINCTION

Sep. 2023 - Jan. 2024

- **Key Modules:** Scalable Machine Learning, Speech Technology, Natural Language Processing, Team Software Project, Dissertation Project

The University of Otago

Dunedin, New Zealand

BSC IN SOFTWARE ENGINEERING AND COMPUTER SCIENCE - ACHIEVED 2.1

Feb. 2019 - Dec. 2022

- Awarded University of Otago New Frontiers Entrance Scholarship at the level of Sustained Excellence
- Leader of Comp Girls Otago - society aimed to support girls in STEM (Science, Technology, Engineering and Mathematics) and increase diversity and equality in the tech field. My role involved hosting events that are valuable to students in STEM for example speaker sessions, panel talks, tech company visits, and study groups

Technical Skills

Programming: Python, JavaScript, Java, SQL

Machine Learning: NLP (NLTK, spaCy), Numpy, Pandas, Matplotlib, Sk-Learn

Databases: MongoDB, PostgreSQL

Tools and Frameworks: React, Vue.js, Node.js, Git, Bash/Linux

Cloud: AWS (Certified Cloud Practitioner)

Work Experience

The School of Computer Science, The University of Sheffield

Sheffield, England

NATURAL LANGUAGE AND SPEECH TECHNOLOGY RESEARCH INTERN

Nov. 2024 - Present

- Collaborating with Dr. Chaona Chen (Lecturer in Robotics) and Dr. Junhong Yang (Senior Lecturer in Finance) at the University of Sheffield to analyze the emotional states of company managers during conference calls. This aims to help investors interpret executives' tones and cues to gain insights into potential profits and stock trends
- Reviewing relevant research papers to explore prior implementations of using call audio and transcripts
- Developing a Machine Learning model combining speech and text features to interpret emotions by analyzing audio characteristics and linguistic patterns.
- Tools include Python (utilizing libraries such as Numpy, NLTK), Bash/Linux, PostgreSQL

The LivePerson Centre for Speech and Language Technology

Sheffield, England

SPEECH TECHNOLOGY RESEARCH INTERN

Oct. 2024 - Jan. 2025

- Collaborated with a postdoctoral researcher to develop speaker diarization (determining "who spoke when" in audio) and speech segmentation techniques (dividing audio into meaningful units).
- Used ESPnet, an open-source end-to-end speech processing toolkit, to implement and optimize diarization models on high-performance computing clusters (HPC). Tasks included adapting pre-trained models, fine-tuning for simulated conversation datasets, and analyzing performance metrics such as diarization error rate (DER).
- Gained experience in dataset creation, debugging large-scale codebases, analyzing research papers, and presenting findings.
- Tools used: Python (utilizing libraries such as Numpy, Pandas, and Librosa) for data manipulation and audio feature extraction, and Bash/Linux scripting for managing high-performance computing clusters and automating workflows.

The School of Computing, The University of Otago

Dunedin, New Zealand

LAB DEMONSTRATOR/TUTOR

Jan. 2021 - Jun. 2021

- As a lab demonstrator, assisted students in the COMP161 module (Introduction to Java) with lab exercises and practice test questions, and marked Mastery Tests (assessments conducted after every two labs) based on the marking criteria provided by the course organizer
- As a tutor, guided mature students transitioning into a new career field and learning Java as their first programming language, supporting their skill development by reviewing lecture material, assisting with lab exercises, and addressing any challenges they encountered

Projects

Audio Emailer

Sheffield, England

DEVELOPED SOFTWARE TO ACCESS USER'S INBOX AND READ EMAILS AT SCHEDULED TIMES

Feb. 2024 - Jun. 2024

- Developed a team project enabling users to access their inbox and hear emails read aloud at scheduled times using user-selected voices via Amazon Polly, alongside standard read and send functionalities
- Collaborated with the front-end team to create application mockups in Figma and developed the project based on the designs
- Integrated Gmail API to allow users to log in, retrieve inboxes, and categorize emails into read, unread, and important segments
- Gained experience managing a team-based project, ensuring integration across components, troubleshooting issues, and presenting progress to clients in weekly meetings
- Tools include VueJS (front-end), Firebase (back-end), Amazon Polly (AI Voice Generator), GitLab (version control), Figma (design)

Talking and Listening Social Robot

Sheffield, England

DESIGNED AND IMPLEMENTED SOFTWARE FOR THE FURHAT ROBOT TO FUNCTION AS A STUDY BUDDY FOR UNIVERSITY

Jul. 2024 - Sep. 2024

STUDENTS WITH ADHD

- Developed a MERN (MongoDB, Express, React, Node.js) application integrated with the Furhat robot and FaceReader, emotion recognition software, to assist university students in managing studies
- Designed features for students to log in via Gmail, input class schedules, and generate personalized study plans using OpenAI GPT-4
- Implemented Pomodoro timers (50-minute sessions) that triggered FaceReader to monitor emotions, prompting Furhat to offer calming activities like deep breathing and gratitude reflection if stress (sad or angry emotions) was detected
- Created a quiz feature enabling students to generate 20-question quizzes based on their study notes. Furhat administered the quizzes, provided feedback, and re-quizzed students on incorrect answers to reinforce learning
- Gained expertise in integrating APIs, debugging Furhat's Kotlin-based codebase, and prompt engineering for accurate responses
- Tools include MERN stack (application development), Kotlin (Furhat programming), OpenAI GPT 4 (response generation), Figma (design), GitHub (version control)

Certifications

Amazon Web Services (AWS) Certified Cloud Practitioner

March. 2023

SCORE: 1000/1000

- Gained knowledge and skills in understanding AWS services, their pricing, basic architectural principles, security best practices, and cost optimization strategies

Amazon Web Services (AWS) Data Engineer Associate

In Progress

- Learning how to design and implement AWS services for big data solutions, including data processing, storage, and analysis