

Maaha Ahmad

Computer Science Graduate

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Summary

Computer Science graduate passionate about solving real-world problems through technology, with hands-on experience from projects and internships. Eager to grow and contribute in a dynamic tech role.

Technologies

Programming: Python, JavaScript, Java, SQL

Data Vizualisation: NumPy, Pandas, Matplotlib

Non-relational Database: MongoDB

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

Cloud: AWS Certified Cloud Practitioner

Education

The University of Sheffield, UK

MSc in Computer Science with Speech and Language Processing

Sep. 2023 - Jan. 2025

Grade: Distinction

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

The University of Otago, New Zealand

BSc in Software Engineering and Computer Science

Feb. 2019 - Dec. 2022

Grade: 2:1

- 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. My role involved hosting events that are valuable to students for example speaker sessions, panel talks, tech company visits, and study groups

Experience

Natural Language and Speech Technology Research Intern (Project Link)

The School of Computer Science, The University of Sheffield

Jan. 2025 - Present

- Analyzing managers' speech and text transcripts from conference calls to identify areas where they exhibit signs of nervousness or deception. The goal is to help stakeholders assess executives' confidence and sincerity, aiding in investment decision-making
- Developing a Machine Learning model combining speech and text features to interpret emotions by analyzing audio characteristics and linguistic patterns.
- Tools: Python (utilizing libraries such as Numpy, NLTK), Bash/Linux, PostgreSQL

Speech Technology Research Intern

The LivePerson Centre for Speech and Language Technology

Oct. 2024 - Jan. 2025

- Worked 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 a diarization model on high-performance computing clusters (HPC). Tasks included adapting pre-trained models, and fine-tuning for simulated conversation datasets.
- Tools: 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.

Projects

Talking and Listening Social Robot - MSc Dissertation (Project Link)

The School of Computer Science, The University of Sheffield

Jul. 2024 - Sep. 2024

Score: 78/100

- Developed a MERN (MongoDB, Express, React, Node.js) application integrated with the Furhat robot and FaceReader (emotion recognition software) to assist university students with ADHD in managing their studies
- Designed features for students to log in via Gmail, input class schedules, and generate personalized study plans and quizzes

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 if stress(sad or angry emotions) was detected
- Tools: MERN stack (application development), Kotlin (Furhat programming), OpenAI GPT 4 (response generation), Figma (design), GitHub (version control)

Audio Mailer - MSc Team Project

Feb. 2024 - Jun. 2024

The School of Computer Science, The University of Sheffield

Score: 75/100

- Built a team project enabling users to have emails read aloud at scheduled times via Amazon Polly, with full email functionalities
- Developed the front-end using VueJS and integrated Gmail API for login, inbox retrieval, and email categorization
- Tools: VueJS (front-end), Firebase (back-end), Amazon Polly (AI Voice Generator), GitLab (version control), Figma (design)

Certifications

Certified Cloud Practitioner (Certificate Link)

March. 2023

Amazon Web Services (AWS)

Score: 1000/1000

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