

Maaha Ahmad

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EDUCATION

- **The University of Sheffield, UK** 2023 - 2024
MSc in Computer Science with Speech and Language Processing Achieved: Distinction
–**Key Modules:** Scalable Machine Learning, Speech Technology, Natural Language Processing, Team Software Project, Dissertation Project
- **The University of Otago, New Zealand** 2019 - 2022
BASc in Software Engineering and Computer Science Achieved 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 (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
- **Beacon House School System, Pakistan** 2017 - 2019
A Levels
–Physics (A), Mathematics (A), Chemistry (A), Computer Science (A)

WORK/INTERNSHIPS

- **The LivePerson Centre for Speech and Language Technology** Oct 2024 - Present
Speech Technology Research Intern Sheffield, England
– Collaborating with a postdoctoral researcher to develop speaker diarization (determining "who spoke when" in audio) and speech segmentation techniques (dividing audio into meaningful units)
– Working with ESPNET, an open-source end-to-end speech processing toolkit, to implement and optimize diarization models on high-performance computing clusters. Tasks include adapting pre-trained models, fine-tuning for specific datasets, and analyzing performance metrics.
– Learning to create and refine datasets, debug large-scale codebases, analyzing research papers, and present findings.
– Tools include 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 Computer Science, University of Sheffield** Nov 2024 - Present
Natural Language and Speech Technology Research Intern Sheffield, England
– 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, focusing on identifying suitable models and algorithms for this specific use case
- **The School of Computing, University of Otago** Jan 2021 - Jun 2021
Lab Demonstrator/Tutor Dunedin, New Zealand
– 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 EXPERIENCE

- Audio Emailer

2024

Developed software to access user’s inbox and read emails at scheduled times in a team project

- Developed an email client with standard read/send functionalities and feature to read emails aloud at scheduled times using a user-selected voice
 - Worked with the front-end team to design the application mockup using Figma and developed the project based on the design
 - Learned how to use the Gmail API to allow users to log in to the application and retrieve their inbox, segmented into read, unread, and important emails
 - Used GitLab for version control, gaining hands-on experience in collaborative coding practices, including code review, pull requests, and merges
 - Acquired skills in managing a team-based project from scratch, coordinating with team members to ensure seamless integration and development, , and presenting ideas and progress to the client through weekly meetings
 - Gained debugging skills through troubleshooting and resolving issues during development
 - Tools include VueJS (front-end), Firebase (back-end), Amazon Polly (AI Voice Generator), GitLab (version control), Figma (design)
- Talking and Listening Social Robot

2024

Designed and implemented software for the Furhat robot to function as a study buddy for university students

- Built a MERN (MongoDB, Express, React, Node.js) application integrated with Furhat and FaceReader(facial emotion detection software) through API calls
 - Enabled students to log in via Gmail, input class schedules and assignments, and generate study plan using OpenAI GPT-4-o mini
 - 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
 - Developed a quiz feature enabling students to generate 20-question quizzes based on their study notes using OpenAI GPT-4-o mini. Furhat administered the quiz, provided feedback, and re-quizzed students on incorrectly answered questions to reinforce learning
 - Learned prompt engineering through trial and error to generate the correct responses using OpenAI
 - Gained debugging skills while working with multiple APIs and navigating Furhat’s codebase to identify the root cause of problems
 - 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

- Gained knowledge and skills in understanding AWS services, their pricing, basic architectural principles, security best practices, and cost optimization strategies
 - Score: 1000
- 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

REFERENCES

Available on request