

# M u h a m m a d M o b e e n

## Machine Learning Engineer

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### SUMMARY

Entry Level Machine Learning Engineer with a proven track record of developing impactful projects and excelling in competitive environments. Demonstrated strong problem solving skills in a fast paced environment through multiple **first-place** finishes in Inter-University coding competitions. Recognized for academic excellence as a **Dean's List** member for consecutive semesters. Proven **internship experience** with Machine Learning to work in a team environment or as an independent contributor. Diverse skill set, beyond machine learning to effectively **communicate** with various departments.

### SKILLS

Computer Vision

Audio Processing

Large Language Models

Natural Language Processing

Chatbot Development

Fine Tuning

**Programming Languages:** Python, JavaScript, Java

**Python Libraries:** Pandas, Numpy, Scipy, Py-Feat, OpenCv, Librosa, PyAudio, Flask, Django, FastAPI, Matplotlib, Seaborn

**Machine Learning Tools:** Tensorflow, Keras, PyTorch, Scikit-learn, SpaCy, Py-Feat, PyMC5, NLTK, Langchain

**Bonus Skills:** MERN Stack, React Js, Node Js, MongoDB, SQL, Web App development, TailwindCSS, Express Js, C++

### EXPERIENCE

#### AIM Lab | AI-Intern

*June-2024 - August 2024*

- **Co-led** a research initiative with 4 sophomore students, focusing on emotion detection via video and speech analysis; enhanced model accuracy by 20% and **communicated** findings to the project supervisor.
- Accomplished cross-Integration using RAVDESS and SURREY audio datasets to train custom CNN Models from scratch which achieved 90% accuracy on test real world data.
- **Achieved** a 40 ms response time on the emotion feedback system utilizing the self trained model.
- Mapped 7 basic detected emotions to positive and negative personality traits to quantify **soft skills** such as openness, extrovertness and empathy.

#### KK Solutions | Software Engineer Intern

*May 2024 – July 2024*

- Worked on real world projects by creating Portfolio websites and Management systems using React Js.
- Guided under supervision of industry software engineers to learn the best practices using JavaScript Stacks.
- Learned about various stages of the software development lifecycle in MERN and Next.js projects.

#### FAST NUCES | Teaching Assistant

*January 2023 – January 2024*

- Teaching Assistant for [CS-2001] Data Structures ('A').
- Teaching Assistant for [CS-2009] Design & Analysis of Algorithms ('A+').
- Coordinated with the course instructors to create coding assignments and conduct code review of students.

### PROJECTS

#### InterviewerPro | Tensorflow, Librosa, Deep Learning, NLP, Python

*May 2024 - June 2024*

##### Streamline the hiring process by providing an automated screening layer

- Created and fine tuned various **Deep Learning** models to detect emotions from **live** facial and audio input streams.
- Utilized **NLP** spaCy models to parse through candidates CV and generate personalized interview questions.
- Evaluated the candidates emotions over time throughout the interview process to map them into soft skills.

#### Glaucoma Detection | OpenCV, Tensorflow, Keras, Machine Learning

*April 2024 - May 2024*

##### Early stage eye disease detection to prevent permanent visual impairment

- Trained 2 **Convolution Neural Network** (U-NET) models on 500 Retinal Fundus Images.
- Achieved **90% accuracy** by **Pipelining** the 2 models asynchronously to segment regions of interest.

#### Climate Predictor | Python, Pandas, Scikit-Learn

*March 2024*

##### Predicting atmospheric conditions based on 10 input features

- Our solution got a **Gold Medal** in the DataQuest module of AirTech'24 with a prize pool of **Rs 50,000**.
- Cleaned, **pre-processed** and extracted features a large weather dataset containing weather data from 2020 - 2023.
- Achieved **93% accuracy** on test data after Visualizing input trends and Creating a Random Forest Classifier.

### EDUCATION

#### FAST National University of Computer & Emerging Sciences

**Islamabad, Pakistan**

*B.S. in Computer Science*

*Expected Graduation, May 2025*

- **GPA:** 3.48/4.00

- **Awards & Honors:** Winner NUST Science Bee X Speed Programming and AIRTECH '24 DataQuest, **Dean's List**