

Muhammad Talha

Lahore, Pakistan | mtalha1501@gmail.com | +92-323-8952208

linkedin.com/in/muhammad-talha-software-ai-engineer | github.com/mtalha1501

Education

University of Engineering and Technology, Lahore

Sept 2023 – May 2027

BS in Computer Science | CGPA: 3.45/4.0 ([Transcript](#))

- **Relevant Coursework:** Artificial Intelligence, Data Structures & Algorithms, Design & Analysis of Algorithms, Theory of Automata, Discrete Mathematics, Database Design & Management, Information Security, Computer Architecture, Computer Networks, Parallel & Distributed Computing, Compiler Construction, Mobile Application Development, Project Management

Experience

Teaching Assistant – Programming Fundamentals & OOP

Sept 2024 – May 2025

University of Engineering and Technology, Lahore

- Supported lab instruction and grading across two semesters, reinforcing strong foundations in algorithmic thinking and problem decomposition. Mentored students in debugging and reasoning through code, building communication skills for technical explanation.

AI/ML Intern (Remote)

Sept 1 – Oct 31, 2025

Arch Technologies

- Completed a remote AI/ML internship building and evaluating supervised learning models, including a spam email classifier and an MNIST handwritten digit recognition model.
- Implemented data preprocessing, model training, and performance evaluation pipelines in Python using Scikit-learn and TensorFlow/Keras, strengthening practical ML workflow skills under mentorship.

Projects

SmokeSentinel – AI-Powered Smoking Detection System

github.com/Smoking-Detector

- Engineered a real-time computer vision system using **YOLOv8s** to detect cigarette smoking in live video streams, fine-tuning on a custom annotated dataset for high precision, low-latency inference.
- Built a full-stack monitoring app with a **Flask** REST API serving inference and a **React.js** dashboard for live alerts; showcased at a university open house.
- **Stack:** Python, YOLOv8 (Ultralytics), OpenCV, Flask, React.js, REST API, Deep Learning, Object Detection

Car Price Prediction – PakWheels Dataset

github.com/CarPricePrediction

- Built an end-to-end regression ML pipeline on a real-world PakWheels dataset: data collection, cleaning, feature engineering, model training, and evaluation.
- Applied outlier removal, categorical encoding, and feature selection across 15+ attributes; benchmarked multiple regression models by RMSE and R^2 to select the best performer.
- Visualized feature importance and prediction distributions using Matplotlib to interpret and communicate model behavior.
- **Stack:** Python, Pandas, NumPy, Scikit-learn, Matplotlib, Jupyter Notebook

Spam Email Classifier

github.com/Spam-Email-Classifer

- Developed a binary text classification model using NLP preprocessing (tokenization, stopwords removal, TF-IDF vectorization) to distinguish spam from legitimate emails.
- Trained and evaluated multiple classifiers (Naive Bayes, Logistic Regression, SVM); reported accuracy, precision, recall, and F1-score on held-out test data.
- **Stack:** Python, Scikit-learn, Pandas, NumPy, Jupyter Notebook

OrganizeUp – Full-Stack Web Platform *In Progress*

github.com/OrganizeUp

- Built a MERN-stack resource management platform for students, demonstrating full-stack engineering ability alongside AI/ML work.

- Designed RESTful API with Node.js/Express.js, scalable MongoDB schema, and a React frontend with component-based architecture.
- **Stack:** MongoDB, Express.js, React, Node.js, JavaScript

Technologies

Languages: Python, JavaScript, C++, SQL, Kotlin

AI / ML & Computer Vision: Scikit-learn, TensorFlow, Keras, YOLOv8 (Ultralytics), OpenCV, Pandas, NumPy, Matplotlib

Web & Backend: React.js, Node.js, Express.js, Flask, MongoDB, MySQL, REST APIs

Mobile: Android (Kotlin, XML), Firebase Firestore, Room, Retrofit

Tools & Cloud: Git, GitHub, Jupyter Notebook, Google Colab, AWS, Google Cloud Platform, Primavera P6

Certifications

- | | |
|--|--|
| • Google AI Essentials | <i>Google / Coursera, Aug 2025</i> |
| • AWS Cloud Practitioner Essentials | <i>AWS / Coursera, Nov 2025</i> |
| • Google Cloud Fundamentals: Core Infrastructure | <i>Google Cloud / Coursera, Sep 2025</i> |
| • MERN Stack Front To Back: Full Stack React, Redux & Node.js | <i>Packt / Coursera, Aug 2025</i> |
| • Introduction to Git and GitHub | <i>Google / Coursera, Jul 2025</i> |