

MUHAMMAD TALHA

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SUMMARY

Motivated Computer Science student with a strong foundation in **machine learning**, **deep learning**, and **data science**. Proficient in **Python**, **TensorFlow**, and **NumPy**, with experience in implementing basic **ML models**, performing **data preprocessing**, and conducting **model evaluation**. Actively seeking an opportunity to contribute as an **AI/ML Engineering Intern**, leveraging my skills in **algorithm development**, **data-driven problem solving**, and collaborative teamwork in real-world projects.

EDUCATION

Bachelor of Science in Computer
Science COMSATS University
Islamabad, Wah Campus

- cgpa: 3.69

Feb 2023 - present

SKILLS

- **Programming Languages:** Python(Numpy, Pandas, Matplotlib, seaborn, tkinter, NLTK, BeautifulSoup), Java(Swing), C++
- **Software Core Concepts:** Digital Image Processing, Data Structures And Algorithms, Object-Oriented Programming.
- **Frontend Development:** HTML, CSS, JavaScript, Bootstrap, TailwindCss, React
- **Tools and Technologies:** Google Collab, Jupyter Notebook, Anaconda, Visual Studio, IntelliJ IDEA, Apache NetBeans, PyCharm, Streamlit, Vercel, Github Pages
- **General Skills:** Problem-solving, Team collaboration, Attention to detail, Continuous learning

PROJECTS

❖ Sentiment & Emotion Detector

Technologies:

Python, Hugging Face Transformers, NLTK, Streamlit

Details:

I built it using multiple state-of-the-art NLP models including RoBERTa (Twitter sentiment), and BERT-basego emotions and deployed on Streamlit.

It classifies text in real-time with interactive UI and visual outputs for better insights.

❖ Handwritten Image to Text Extraction (In Progress)

Technologies:

Python, Tkinter, PIL, OpenCV, NumPy, Hugging Face Transformers, TrOCR

Details:

Building a GUI application to extract handwritten text using Microsoft's TrOCR model. Users upload images, which are preprocessed and passed to the model. Output is shown in an editable text area with DOCX/PDF export options.

Digital Image Processing Concepts:

Grayscale conversion, resizing, denoising, binarization, and automatic line segmentation.

❖ Printed Text Image to Text Extraction

Technologies:

Python, Tkinter, PIL, OpenCV, pytesseract, NumPy, python-docx, FPDF

Details:

Developed a GUI-based app to extract printed text from images using Tesseract OCR. Users upload images through Tkinter GUI, which are preprocessed using OpenCV and PIL. Extracted text is shown in an editable area with export options to DOCX and PDF.

Digital Image Processing Concepts:

Grayscale conversion, enhancement, resizing, thresholding, and denoising to optimize OCR accuracy.

❖ Handwritten Digit Recognizer

Technologies:

Python, TensorFlow/Keras, Tkinter, PIL, NumPy

Details:

Created a CNN-based GUI app where users draw digits on canvas. The image is preprocessed and classified in real-time using a trained CNN on MNIST.

Digital Image Processing Concepts:

Resizing, grayscale conversion, inversion, normalization, and reshaping for CNN input.

❖ Fitness Schedule Manager

Technologies:

C++

Details:

A gym management tool for organizing schedules and prioritizing peak hours.

DSA Concepts:

Min heap for time slot prioritization, linked list for tracking schedules.

❖ Catering Management System

Technologies:

Java, Java Swing

Details:

Desktop application for managing catering services with admin/user login, dynamic menu handling, efficient order processing, and staff assignment.

❖ Pharmacy Management System

Technologies:

C++

Details:

System to manage pharmacy operations — add/update/delete orders, generate receipts, and produce daily summaries.