# Muhammad Talha

### EDUCATION

Habib University

September 2020 - June 2024

 $B.S.\ Computer\ Science$ 

Alpha College

September 2018 - August 2020

A-Levels

Saint Michaels Convent School

September 2004 - September 2018

Primary - O levels

## EXPERIENCE

**QLU** | Software Developer (Typescript/Node/NextJS/Express)

June 2024 - Current

- Design and develop cutting-edge web application.
- Colloborate with design and product team to create applications that comply with design and user flows
- Use best-practices and industry standard tools such as git, eslint, Kanban, JIRA and Linear.

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## Personal Projects

Yohsin Connect | Python, LangChain, FAISS, PyTorch, TensorFlow

Ongoing

- Developed a Retrival Augmented Generation (RAG) chatbot to provide instant responses to inquiries from prospective students at Habib University.
- Integrated advanced LLM models using TensorFlow and PyTorch to understand and generate human-like responses.
- Utilized LangChain for streamlined implementation of chat functionalities and FAISS for efficient information retrieval from a large vector database/store of university related documents.
- Ensured seamless operation and scalability of the chatbot by deploying it with Streamlit

### Personal Home Lab and Smart Home Setup | YAML, Python, Docker,

Ongoing

- $\bullet$  Configured diverse services: Jellyfin, Home Assistant, Transmission Daemon with public access
- Managed Docker containers for efficient deployment

## BomberMan Clone | C++, SDL2, SPRITE ANIMATIONS, POLYMORPHISM

December 2021

- Recreated the famous bomberman game in C++ using SDL2 including sprite animations, and custom game mechanics
- Implemented OOP design patterns, polymorphism

 $\textbf{Sorting Visualizer} \mid \textit{Python}, \textit{Tkinter}, \textit{Data Structures}$ 

August 2022

• Developed a real-time sorting algorithm visualization tool using Tkinter, showcasing sorting algorithms' step-by-step processes to enhance understanding.

## SKILLS

Languages: C/C++, Python, JavaScript, HTML/CSS, CUDA, SQL LATEX

Tools: Git/GitHub, Bash, Yaml, Docker, FASTAPI