# Muhammad Talha

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## EDUCATION

Habib University

September 2020 - June 2024

B.S. Computer Science

Alpha College

September 2018 - August 2020

A-Levels

#### EXPERIENCE

QLU | Software Developer (Full Stack: TypeScript/Node.js/Next.js/Express)

June 2024 - October 2024

- Implemented a custom search algorithm using Cassandra on an at-rest encrypted database, ensuring security and efficiency.
- Singlehandedly deployed attachment functionality, managing the complete development lifecycle for front-end and back-end integration.
- Collaborated with design and product teams to create user-centric applications adhering to design principles and user flow requirements.

 $\textbf{Jacqueline Construction} \mid \textit{Software Developer (Typescript/Node/NextJS/Express)}$ 

October 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.

### PERSONAL PROJECTS

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

2024

- 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.

 $\textbf{Personal Home Lab and Smart Home Setup} \mid \textit{YAML}, \textit{Python}, \textit{Docker},$ 

Ongoing

- 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

#### SKILLS

Languages: OpenStack, CEPH Storage, Linux systems, infrastructure automation, Ansible, Terraform, Python, networking, CI/CD, Jenkins, Git, Docker, Kubernetes, server hardware, BMC/Redfish, Kolla Ansible, Ironic, MaaS, HashiCorp, Vault, HPC clusters, Infiniband, SRE, monitoring solutions, SLIs, SLOs, private cloud technology

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