

Muhammad Hassan Raza

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Technical Profile

Languages: Java | Python | C/C++ | HTML | Dart (Beginner)

Frameworks: Java Swing | Flutter (Beginner)

Skills: Object-Oriented Programming | Data Structures | Artificial Intelligence (Beginner)

Others: Git | GitHub

Projects

TextWise

May 2024

- Developed in C++.
- Implemented core functionalities including text editing, file operations, and **compression/encryption** with **Huffman coding**.
- Designed and developed custom data structures like MinHeap and Stack to support text compression and undo/redo operations.
- Utilized unordered maps for character frequencies and encoding/decoding tables.

<https://github.com/hassandev03/cpp-work/tree/main/TextWise>

CUBot

Nov 2023

- Developed a Java-based desktop assistant.
- Features include **question answering**, file handling, **Windows app launching**, **weather info**, and **screenshot capture**.
- Built an intuitive **GUI** with Java Swing.
- Integrated **OpenWeatherMap** API for real-time weather updates and **chatGPT** API for question answering.
- Utilized **org.json** library

<https://github.com/hassandev03/java-work/tree/main/Projects/CUBot>

Education

Bachelor's in Computer Science

Feb 2023 – 2027

COMSATS University Islamabad

CGPA: 4.0

Online Courses

Crash Course on Python by Google – Coursera

Python Data Structures – Coursera

AI for Everyone – Coursera

Understanding Artificial Intelligence – DataCamp

Understanding Machine Learning – DataCamp

Large Language Models (LLMs) Concepts – DataCamp

Introduction to Generative AI by Google - Coursera