

ABDELAZIM LOKMA

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<https://abdelazimlokma.github.io/>

EDUCATION

Boston University

Boston, MA

Masters, Artificial Intelligence - Final GPA : 3.8 / 4.0

Sep 2023 - Dec 2024

Relevant Coursework: Graduate Object Oriented Programming & Design Principles, Full Stack Development, Software Engineering, Mobile App Development, Graduate Databases.

Boston University

Boston, MA

Bachelor of Arts and Sciences, Major in Computer Science

May 2023

Minor in Business Administration

PROJECTS

FairCase A.I - Machine Learning Project (Python, ChromaDB, LangChain)

Dec 2024

- Designed FairCase, an AI-powered tool for the National Lawyers Guild Massachusetts Chapter, automating the analysis of civilian complaints against Boston Police Department officers.
- Implemented a custom LangChain multi-query retriever that dynamically generates RAG queries for each allegation-description pair by extracting contextually relevant segments of complaint descriptions.
- Utilized R.A.G, ChromaDB and advanced prompt engineering to retrieve B.P.D policies, analyze misconduct, and provide explainable, actionable reprimand recommendations for B.P.D officers.

Sign Language Identification Program - Computer Vision Project (Python, OpenCV)

Mar 2024

- Spearheaded design and implementation of an algorithm to recognize American Sign Language (ASL) gestures using template matching and circularity measurement techniques.
- Achieved a greater than 90% classification accuracy in ASL gesture recognition.

Simple DBMS - Software Development Project (C++)

Nov 2023

- Developed a custom Database Management System (DBMS) in C++ with core components such as heap files for data storage, a buffer pool for caching, and a metadata catalog.
- Implemented B+Tree indexing for efficient data retrieval and optimized join operations.

Fit-Gen - Software Development Project (Android Studio/Java)

Dec 2022

- Co-created an Android app to efficiently catalog a user's clothing inventory, leveraging fundamental fashion principles and external factors to curate personalized outfits.
- Spearheaded the design and implementation of the algorithm responsible for digitizing clothing items & generating fashionable outfits within the app's functionality.

EXPERIENCE

Teaching Assistant - CS 611 Graduate O.O.P & Software Design in Java

Sep 2024 - Present

Boston University

Boston, MA

- Collaborated with the course instructor to influence course design, helping to shape lab exercises and assignments to better align with learning objectives.
- Taught over 20 graduate students in lab sessions, providing guidance on O.O.P concepts in Java.

Summer Intern

Jul 2021 - Aug 2021

Dell

Cairo, Egypt

- Led the mock project "E7keeli" to provide online therapy access for middle to lower working class Egyptians, presenting it to DELL Egypt executives.
- Acquired comprehensive training in AI, 5G, and DevOps, expanding knowledge and proficiency.

SKILLS

- Java, Python (Pandas, PyTorch, HuggingFace, NumPy), C++, SQL, Git
- Multilingual: Arabic (Native), English (Fluent), French (Conversational)