

Ali Mourad

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Highly driven Computer Science student with a solid foundation in programming and software development, coupled with a growing passion for problem-solving and innovative technologies. Skilled in both group and individual projects, with the ability to adapt to collaborative environments and work independently to deliver results. Eager to contribute to dynamic projects that challenge my technical and analytical skills, while continuously expanding my expertise in fields like artificial intelligence and software engineering. Proven ability to learn quickly, collaborate effectively, and communicate complex ideas with clarity.

EDUCATION

Lebanese American University

B.S. in Computer Science | GPA: 3.4/4.0

December 2024

Relevant Courses: Algorithms & Data Structures, Object-Oriented Programming, Computer Organization, Operating Systems, Foundations of Programming, Database Management Systems

TECHNICAL SKILLS

Programming Languages: Java, Python, C++, HTML, CSS, JavaScript

Database Management Systems: MySQL, PostgreSQL

Operating Systems: Linux Data Structures & Algorithms, Complexity Analysis, Object-Oriented Programming Theory:

PROJECTS

Business Dashboard MVP | Group Project

January 2025

- Collaborated with a team of 4 to develop a web application that enables users to analyze business performance by uploading and visualizing CSV data.
- Focused on designing and implementing the data visualization module using Chart.js, as well as developing the backend API for data processing with Flask.
- Integrated individual contributions into a cohesive application, utilizing Microsoft SQL servers for schema-less data storage to accommodate varying CSV structures.
- Ensured seamless integration of the frontend (HTML/CSS, JavaScript) with backend functionalities to deliver a user-friendly experience.
- Contributed to project planning, version control using Git, and debugging to create a robust and scalable solution.
- Technologies Used: Flask, Microsoft SQL servers, JavaScript, Chart.js, HTML/CSS, Python

Football League Database | Individual Project

October 2024

- Designed and implemented a robust database system to manage the operations of a football league, encompassing teams, players, coaches, referees, stadiums, and matches.
- Focused on creating a relational database schema with detailed information about player performance, match results, and league operations, while ensuring data consistency through foreign keys and constraints.
- Developed advanced SQL queries, including joins, nested queries, and aggregate functions, to facilitate complex data retrieval and analysis, such as team statistics, player achievements, and match outcomes.
- Implemented triggers and stored procedures for automation and data integrity, such as updating player counts per team and preventing invalid data entries.
- Designed an Entity-Relationship (ER) model and optimized database performance with normalization techniques and efficient indexing strategies.

- Technologies Used: MySQL, SQL Triggers, Stored Procedures, ER Modeling, Relational Database Design

Voice Verification System | Individual Project

February 2024

- Developed a Python-based application to verify a user's voice against a reference recording using audio feature extraction and similarity measures.
- Focused on implementing Mel-Frequency Cepstral Coefficients (MFCCs) for feature extraction and cosine similarity for voice comparison, ensuring accuracy and efficiency.
- Designed a real-time audio capture module using PyAudio to record user voice input, and utilized Librosa for robust audio signal processing.
- Integrated modular methods for audio feature extraction, dynamic voice comparison, and threshold-based verification to determine matches.
- Emphasized resource optimization by handling audio streams effectively and leveraging numpy for efficient data manipulation.
- Technologies Used: Python, PyAudio, Librosa, NumPy, SciPy