BILAL MIRZA

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Education

FAST - National University of Computer and Emerging Sciences
Bachelor of Science in Computer Science

Experience

Full Stack Developer
Improdata
- Worked on development of a financial product startup, independently managing project timelines, requirements, and deliverables.
- Designed the initial database schema of the application to proceed with backend development.
- Built responsive and dynamic user interfaces using React, TypeScript, Ant Design, and TailwindCSS to ensure cross-platform compatibility and accessibility.
- Integrated RESTful APIs to interface with Azure Data Lake, handling large datasets and implementing complex financial models to deliver data-driven insights.
- Actively participated in Agile development practices, including daily stand-ups and sprint retrospectives, utilizing tools like Notion for task tracking.

Computer Science Tutor
Preply
- 350 + hours of virtual tutoring to international students enrolled in Undergraduate or High School programs.
- Teaching subjects like Object-Oriented Programming, Data Structures, Computer Architecture, etc.
- Teaching Programming Languages like C/C++, Python and web technologies like React, Next.js and Node.js

Skills

Programming Languages: Java, C#, JavaScript/TypeScirpt, Python, C++
Frameworks: React, Next.js, Node.js, Express.js, Spring Boot, Flask, .Net Core, LangChain
Databases: PostgreSQL, MySQL, SQLite, MongoDB, Firebase
Developer Tools: Docker, Git, Linux

Projects

Campus Connect (Final Year Project) | *TypeScript, Java, Next.js, SpringBoot, Python, Langchain, Flask, PostgreSQL*
- Designed and developed a full-stack web application to centralize student society affairs at FAST-NUCES Karachi Campus.
- Integrated an AI-powered RAG Chatbot to assist users with inquiries built using Langchain, Gemini and Flask.
- Developed a centralized communication platform enabling unified messaging for seamless coordination across teams.
- Designed role-based portals with custom interfaces for participants, Excom members, and faculty heads with role based authentication.
- Created a task management system for efficient allocation and monitoring of responsibilities.
- Streamlined budget management processes for fund allocation and tracking to ensure transparency and optimal resource utilization.

Stock Buddy | *TypeScript, Python, Next.js, Django, MySQL, Tensorflow, Keras*
- Developed a full stack application to suggest future stock prices predicted by a deep learning model using time-series forecasting
- Trained a Deep Learning Model for time series forecasting to predict future stock prices using LSTM architecture with Tensorflow and Keras
- Built a user interface to view historic prices and future prices as charts using React and Next.js
- Implemented server-side rendering to optimize the retrieval and processing of large historical stock data.
- Designed a REST API using Django and used MySQL to store stock data.

Finshark | *C#, .Net Core Web API, Entity Framework, .Net Core Identity, PostgreSQL*
- Developed a RESTful API for managing stock data and portfolios, allowing users to create and manage personalized portfolios, track stock prices, and post comments on individual stocks.
- Utilized C# and .NET Core Web API to design and implement scalable endpoints, integrating Entity Framework for efficient data access and PostgreSQL for reliable, persistent storage.
- Integrated .NET Core Identity to implement secure user authentication and authorization, ensuring role-based access to portfolio management and stock data features.

Comparative Analysis of Convex Hull Algorithms | *Python*
- Implemented a comparative analysis of different Convex Hull Algorithms in Python.
- Leveraged execution time analysis to identify the most efficient algorithm for various data set sizes.
- Visualized the construction process of the hull for each algorithm using matplotlib and plotly, enhancing understanding of their behavior.