HAMZA ASAD

Islamabad, Pakistan
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EDUCATION

National University of Computer and Emerging Sciences Expected Graduation: July 2026
B.S. in Data Science
CGPA: 3.51/4.00
Courses: Data Structures, Discrete Structures, Fundamentals of Big Data Analytics, Fundamentals of Software Engineering, Linear Algebra, Object-Oriented Programming

SKILLS

Programming Languages	Python, C++, R
Frameworks	Scikit, NLTK, Pandas, NumPy, Flask
Tools	MySQL, MongoDB, Apache Spark, Hadoop, Power BI

EXPERIENCE

Lab Demonstrator January 2024 - Present
Fast NUCES, Islamabad Campus

- Teaching Object-Oriented Programming (OOP) in C++.

Teaching Assistant for Expository writing January 2024 - Present
Fast NUCES, Islamabad Campus

- Assisted with student evaluation and managed time effectively to support student learning.

Research and Development Engineer September 2023 - May 2024
FAST Data Science Society

- Conducted data analysis and engaged in collaborative problem-solving initiatives.

PROJECTS

Spotify Recommendation System
Developed a music recommendation system using Python. The system extracts audio features such as MFCCs and log filter bank energies from music tracks using Librosa and Python Speech Features libraries. These features are then stored in MongoDB for efficient data management. Implemented a KMeans Clustering model with PySpark's MLib library to group similar tracks based on extracted features, enhancing recommendation accuracy. This project integrates various tools including Python, Pandas, NumPy, Librosa, Python Speech Features, pymongo, and PySpark.

Developing a Search Engine Utilizing MapReduce
Created a basic search engine using the MapReduce paradigm for efficient document indexing and query processing. Utilized Hadoop, Java, and Python to handle large-scale data processing tasks.

PubMed Article Summarizer Web Application
Developed a web application using Flask that summarizes PubMed articles. This project utilizes LSA (Latent Semantic Analysis) from the sumy library for extractive summarization. Users can upload PubMed articles in text format, and the application generates a summarized version using LSA. Key technologies include Flask for web development, HTML/CSS for the front-end interface, and the sumy library for text summarization.

EXTRA-CURRICULAR ACTIVITIES

- Passionate about photography and creating cinematic videos and reels.