MASUD SAJID

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Education

FAST NUCES **August 2021 – Present (Expected May 2025)**
Bachelor of Science in Computer Science *Lahore, Punjab*

Relevant Coursework

- Data Structures
- Advanced Programming
- Algorithms Analysis
- Database Management
- Software Engineering
- Software Design Analysis
- Artificial Intelligence
- Computer Networks

Technical Skills

Languages: Python, Java, C++, HTML/CSS, JavaScript, SQL, R
Tools: VS Code, Google Colaboratory, MSSQL Server, Jupyter Notebook, MS Excel, Power BI, Anaconda, Git
Technologies/Frameworks: Linux, GitHub, WordPress, Flask, Streamlit, Docker, FastAPI
AI/ML Libraries: NumPy, Pandas, Scikit-learn, TensorFlow, Keras, PyTorch, OpenCV, Matplotlib
Other Skills: REST APIs, Model Training & Evaluation, Data Preprocessing, Feature Engineering, Hyperparameter Tuning, Model Deployment, Data Visualization

Projects

Market Research Sales Data Pipeline with SQL Server | *Python, MS Excel, MSSQL Server* **May 2023**
- Extracted 48,000+ records of city, store, area, and BA details from 10+ Excel sheets, mapping sales data to predefined date columns.
- Identified and assigned IDs for cities, stores, areas, and BA from the SQL database, inserting new records if not found.
- Stored transformed sales data in a master table with attributes like variant, brand, size, and subproduct, ensuring consistency with existing database records.

Lane Detection System using OpenCV | *Python, OpenCV, NumPy, Matplotlib* **December 2024**
- Implemented lane detection using Canny edge detection and Hough Transform.
- Designed a region of interest mask to focus on relevant lane areas.
- Developed an algorithm to classify road directions as "Turn Left," "Turn Right," or "Stay Straight" based on detected lane slopes.
- Used OpenCV to overlay detected lanes and direction labels on the original image.

Distance Matrix Optimization | *Google Sheets, Google Apps Script, Google Maps API* **March 2025**
- Developed a script to fetch real-time distance and travel time between 15 sources and 500 destinations, using Google Maps API.
- Optimized routing based on weight constraints, minimizing travel costs for logistics planning.
- Automated data fetching and visualization in Google Sheets, highlighting key insights for decision-making.

IoT-based Intelligent Environment Monitoring System | *Arduino, Firebase, Random Forest, Next.js* **Ongoing**
- Implemented hardware using ESP8266 microcontroller, DHT11 sensor, and LDR to monitor environmental parameters in real time.
- Used Firebase Realtime Database for efficient storage and remote accessibility of sensor data.
- Applied Random Forest classification to predict environmental conditions based on sensor readings.
- Built a Next.js dashboard to visualize temperature, humidity, and light levels with prediction outputs.
- Further enhancements underway including cloud alerts and advanced analytics.

Certifications

Google Data Analytics Professional Certificate **Aug 2023 – Dec 2023**
Coursera
- Acquired hands-on experience in data cleaning, ensuring data integrity, and maintaining data quality.
- Developed expertise in database management systems (DBMS) and Microsoft Excel for data analysis.
- Learned R programming, Power BI, and SQL for data visualization and reporting.

Leadership / Extracurricular

Head of Engineering Project Competition **Dec 2023 – Feb 2024**
SOFTEC, FAST-NU, Lahore, PK
- Brought in 17 teams to the competition, doubling last year's count.
- Managed the evaluation process and coordinated with teams and judges.

President, IEEE NUCES Lahore **Aug 2024 – Present**
FAST-NU, Lahore, PK
- Built and led a team of 50+ members to revamp and expand the society.
- Organized a cybersecurity workshop with an audience of 100+ participants.
- Implemented structural improvements to enhance operational efficiency and outreach.