Muhammad Faisal Nazir

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Education

Lahore University of Management Sciences (LUMS) Lahore, Pakistan

Bachelor of Science in Computer Science *Aug. 2021 – May 2025*

- **Relevant Courses:** Machine Learning, Deep Learning, Computer Vision, Advance Programming, Software Engineering, Service-Oriented Computing, Databases, Algorithms , Network-Centric Computing, Data Structures, OOP, Artificial Intelligence

Experience

Software Engineering Intern May 2023 – July 2023

Bookme.pk

- Utilized Laravel and Vue.js to build and enhance website features.
- Developed a fully functioning News Feed and Blogging website, implementing Tailwind CSS for the frontend, Laravel for the backend, and MySQL as the database.
- Created a data mapper in Laravel to efficiently process and manage multiple flights' data, improving data organization and accessibility for the company.

Undergraduate Research Intern Aug 2023 – Dec 2023

Lahore University of Management Sciences (LUMS) - CSALT Lab

- Worked under the guidance of Dr. Agha Ali Raza.
- Utilized machine learning models for Urdu to English speech-to-text transcription and translation.
- Collaborated with the web development team on healthcare and speech recognition-related projects.

Projects

DevLink | *Material UI, React, JSX, Vite, Node.js, Express.js, JavaScript, MongoDB, OpenAI*

- Developed a comprehensive job hiring and posting platform specifically for computer scientists and companies.
- Implemented advanced features such as job filtering, bookmarking, offer management, and profile customization.
- Utilized Material UI and React for frontend, Node.js and Express.js for backend, MongoDB for database, and integrated OpenAI for automated cover letter writing and resume filtering.

Wildlife Monitoring using LLava 1.5 | *Python, LLM's, Model Deployment*

- Fine-tuned LLava 1.5, a computer vision language model, for detecting wild animals in low light settings using Python, OpenCV, and machine learning libraries.
- Used the Serengeti dataset for training and testing the model, and ran the baseline model before fine-tuning for improved detection.
- Integrated an image enhancement model for improved performance, deployed the fine-tuned model on Run Pod, and authored a comprehensive research paper covering the project.

Highway Scene Analysis using Computer Vision | *OpenCV, Super Glue, YOLOv7, Google Earth*

- Applied advanced computer vision techniques to analyze highway scenes, leveraging the Comma2K19 dataset of car Dash Cam footage.
- Performed ground segmentation and manually generated top view using GPS coordinates, and projected the entire video on top view using Super Glue.
- Performed object detection using YOLOv7, visualized the obtained orthographic top view on Google Earth software, and contributed to enhancing road safety through the application of computer vision in real-world highway scenarios.

Technical Skills

Languages: JavaScript, Python, C++, TypeScript, HTML/CSS, SQL, Haskell, PHP

Frameworks/Libraries: React, Node.js, Material-UI, Laravel, Vue.js, OpenCV, NumPy, pandas, Matplotlib

Developer Tools: Docker, GitHub, Git, Jupyter Notebooks, Postman, Google Earth, Vite

Databases: MySQL, MongoDB