

# SYED MUHAMMAD USMAN ZAFAR

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[LinkedIn](#) [Portfolio](#) [Github](#)

7th-semester Computer Science student with hands-on experience in AI/ML. Passionate about building impactful solutions and improving user experiences through technology

Relevant Coursework: Artificial Intelligence · Deep Learning for Perception · Database Systems · Operating Systems

## EXPERIENCE

### AI Systems Intern & Team Lead-FAST School of Computing, FAST-NUCES

• June 2025 - Aug 2025

Lead the development of [PaperPilot](#), a **neuro-symbolic AI platform** for automated academic paper co-authoring.

- Designed and implemented **specialized agents** (LLM Extraction Agent, Research Agent, Writing Agent, Citation Agent, Knowledge Graph Builder, and Orchestrator) to collaboratively draft, structure, and refine academic papers.
- Automated **80%** of the end-to-end research workflow, reducing manual effort by **90%** and improving citation accuracy by **70%** for **50+** beta users.
- Delivered features like dynamic graph visualization, auto-citation planning, and DOCX export for seamless user experience.
- Technologies: **Python, Streamlit, NetworkX (Knowledge Graphs), Large Language Models(LLMs), DOCX Export**

### Junior Machine Learning Engineer-Omdena (Client: IREX)

• Remote • June 2024 - Aug 2024

Collaborated with a global team to develop AI-powered content moderation and fact-checking tools across the Dominican Republic and Colombia.

- Built a performance analysis notebook using Python, categorizing **10,000+ texts** with **85%+** accuracy into facts, opinions, and declarations.
- Enhanced a fact classification agent, improving content review workflow efficiency by **30–40%**.
- Technologies: **Python, Pandas, Scikit-learn, Jupyter Notebook, Machine Learning, NLP**

## PROJECTS

### Patient Influx Analysis Dashboard – Mansoorah Hospital

• May 2025

- Designed and deployed an **internal** dashboard analyzing quarterly patient influx from **31** hospital departments, reducing manual report generation time by **50%** and improving management's ability to identify trends and peak load periods.
- Performed end-to-end data cleaning and analysis on large noisy CSV datasets, enabling accurate visualizations and actionable insights for high-stakes stakeholder meetings. (Deployed internally with confidential hospital data; no public link)
- Technologies: **Python, Pandas, NumPy, Matplotlib, Seaborn**

### ZakatFlow - Automated Zakat Computation System

• April 2024

- Developed a Zakat **automation tool** that streamlined financial calculations and reduced manual effort by **90%**, making it easier for community members to manage Zakat during Ramadan.
- Integrated dynamic asset tracking and distribution visualizations, improving calculation transparency and saving hours of manual work for community members.
- Technologies: **Python, Streamlit, Plotly, Pandas, NumPy, forex-python**
- [App Link](#)

## TECHNICAL SKILLS

**Programming:** Python · C++

**AI/ML Frameworks:** PyTorch · TensorFlow · scikit-learn · Hugging Face · NetworkX

**Data & Analysis:** Pandas · NumPy · Jupyter · Matplotlib · Streamlit

**Databases & Tools:** Firebase · Neo4j · SQL · Git/GitHub

**Software & Tools:** Git/GitHub · Docker · Linux/Unix · REST APIs · Postman

## EDUCATION

**National University of Computer and Emerging Sciences**

Lahore, Pakistan • August 2022 - August 2026 (Expected)

Bachelor of Science (Bsc) in Computer Science