SYED MUHAMMAD USMAN ZAFAR

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

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

EXPERIENCE

AI Systems Intern & Team Lead-Computer Science Department, 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 interactive 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**.
- [App Link](#)

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.
- [App Link](#)

PUBLICATIONS & WRITING

- PaperPilot: A Neuro-Symbolic Research Paper Assistant (Formal LaTeX-style internship report) [[View Report](#)]
- PaperPilot: Building an AI Research Assistant That Actually Works (Medium article). [[Read Article](#)]

TECHNICAL SKILLS

Languages: Python · Java · Kotlin · C++ · TypeScript

Frameworks & Tools: React · Android SDK · Streamlit · Firebase

AI & Data: Machine Learning · NLP · Large Language Models (LLMs) · Knowledge Graphs

Version Control: Git / GitHub

EDUCATION

National University of Computer and Emerging Sciences   *Lahore, Pakistan• August 2022 - Present*
Bachelor of Science (Bsc) in Computer Science