

MUHAMMAD ALI MAHMOOD

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EDUCATION

Bachelor of Science (Computer Science)

Topi, Pakistan ,

Ghulam Ishaq Khan Institute of Engineering Sciences and Technology (GIKI); GPA: 3.58/4.00

Courses: Object Oriented Programming, Data Structures and Algorithms, Database Management Systems, Operating Systems, Machine Learning, Deep Learning, Data Science, Soft Computing, Cloud Computing.

PROFESSIONAL EXPERIENCE

Rapide Technologies

Lahore, Pakistan

Junior Data Scientist

Jun, 2024 – Dec, 2024

- * **News Data Modeling and LLM Optimization:** Curated and labeled a 10,000-sample news dataset using the OpenAI API. Fine-tuned **BERT** and **RoBERTa** achieving an 86% accuracy and enhancing performance by 20%. **(Accepted in 31st Conference of ANLP 2025 Japan)**
- * Trained and deployed an AI-driven skin detection system using **YOLOv5** and **Ollama PHI 3**, processing 10,000+ images with **92%** accuracy to provide real-time skincare recommendations.

FrieslandCampina Engro Pakistan Ltd

Karachi, Pakistan

IT Intern

Jun, 2024 – Aug, 2024

- * Engineered a Python-based automation system that collected and processed real-time data from **200+ farmers**, integrating it into a Firebase NoSQL database, reducing manual errors by **40%** and improving data accessibility.
- * Designed an AI-driven **Power BI** dashboard for real-time inventory tracking and demand forecasting, optimizing production efficiency and reducing supply chain delays by **15%**.

PROJECTS

DyslexiAid (Software Development — Machine Learning & AI)

- * Developed and deployed a mobile and web-based AI platform for dyslexia detection and intervention, leveraging deep learning and computer vision to analyze handwriting and reading patterns with 85% accuracy.
- * Engineered an adaptive learning system that provides personalized improvement plans, leading to a 30% increase in reading fluency, helping children overcome dyslexia effectively.

SymptoScan (Software Development — Machine Learning)

- * Developed SymptoScan, an innovative platform with a symptom-based chatbot for disease detection, a medication store, and video consultations with doctors for comprehensive healthcare access.
- * Utilized advanced machine learning techniques achieving up to 94% accuracy in symptom assessment, offering personalized health recommendations to users.

LLM Fine-Tuning for Medical Reasoning (Data Science — Natural Language Processing & AI)

- * Fine-tuned LLMs (DeepSeekR1-7B, Llama-8B, and Mistral-8B) on the FreedomIntelligence/medical-o1-reasoning-SFT dataset, enhancing medical reasoning accuracy and response quality.
- * Achieved a 30% reduction in loss, with the best model reaching 1.2 loss and 6.4 perplexity, significantly improving medical AI reliability and contextual understanding.

HandwritingGANs (Data Science — Deep Learning)

- * Implemented and optimised two types of Generative Adversarial Networks: Deep Convolutional GANs (DCGANs) and Conditional GANs, to generate high-fidelity images from the handwriting dataset of 60,000 images.
- * Refined network architectures and training strategies, achieving a 30% improvement in image clarity and realism.

PROGRAMMING SKILLS

Languages & Technologies: C/C++, Python, SQL, R, Dart, Verilog, Latex, Langchain, TensorFlow, OpenCV, Scikit-Learn, Matplotlib, Pandas, Numpy, Flask, MongoDB, PostgreSQL, Git, GitHub, Firebase, Flutter, PowerBI, AWS, Gradio

AWARDS & ACHIEVEMENTS

Deans Honor List: Honored for academic excellence, achieving a GPA above 3.5 for 6 out of 7 semesters.

L'Oréal Brandstorm 2023: National Semifinalist, ranking in the top 30 for pitching an AR and AI application.

Microsoft Learn Student Ambassador: Utilized Microsoft technologies in various projects.

Campus Ambassador: Sole representative of **SkillReactor** and **SalesFlo** at GIKI