# Hasham Akram

Lahore, Pakistan

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AI/ML Engineer driving impactful solutions with expertise in NLP, CV, GenAI leveraging MLOps and data-driven Machine Learning. Focused on orchestrating cutting-edge AI systems dynamically.

## Skills

- **Programming Languages:** Python, FastAPI, C++, SQL, Django REST
- **ML/DL Libraries & Frameworks:** PyTorch, TensorFlow, Scikit-learn, HuggingFace Transformers, LangChain, LangGraph
- **MLOps & Cloud:** AWS (SageMaker, Lambda, Bedrock), GCP (VertexAI, Cloud Run), Docker, Git, MLflow, DVC, Kubernetes, CI/CD (GitHub Actions), Prometheus
- **Data Science Toolkit:** Pandas, NumPy, NLTK, Matplotlib, SciPy, Playwright
- **Core AI/ML:** NLP, Computer Vision, Deep Learning (Transformers, Generative AI incl. Diffusion Models PEFT/LoRA for LLMs, Agentic AI), Scientific Machine Learning
- **Databases:** MySQL, MongoDB, Pinecone, ChromaDB, Qdrant, Weaviate

## Experience

### Silicon Nexus
**Dec 2025 – Present**

*AI & ML Engineer (WMD Team)* · *Lahore, Pakistan · On-Site*

- Built AI-powered compliance detection system using Django REST Framework with Corrective RAG and vector-based rule validation for national registration workflows.
- Led AI architecture for an AI/AR Virtual Garment Fitting Mirror platform (mirror, tablet app, CMS) supporting multi-store deployment.
- Experimented with DM-VTON and HR-VTON; optimized real-time virtual try-on pipeline for low-latency, high-fidelity inference.

### Sprouto Groups
**May 2025 – December 2025**

*AI & ML Engineer* · *Lahore, Pakistan · On-Site*

- Built an AI-Human document classification pipeline using fine-tuned Gemma-3B, BERTa, and QLoRA (logits ensemble) as instruct; integrated with Gemini API for hybrid predictions, achieving 90% accuracy and 0.90 F1-score.
- Deployed FastAPI microservice on GCP Cloud Run via Docker for scalable, low-latency inference.
- Led 100% automation of social media lead-generation using LangGraph agents, LLM APIs, and real-time web scrapers (Selenium, Playwright), reducing manual intervention by 90%.

### AXON Technologies
**Nov 2024 – May 2025**

*Machine Learning Engineer* · *Lahore, Pakistan · On-Site*

- Developed and deployed ML models (XGBoost, Random Forest) on AWS SageMaker, improving $R^2$ by 30% and streamlining multi-disease models, reducing complexity by 40%.
- Automated model inference with AWS Lambda & EventBridge, boosting efficiency by 25%, while CloudWatch monitoring ensured 99.9% uptime. Integrated ML predictions into user interfaces, enhancing engagement by 30%.
- Built and deployed AI agents on Amazon Bedrock for multi-purpose tasks, including generating custom contracts between two signing parties, reducing contract generation time by 50% and improving accuracy by 35%.

### CodSoft
**Mar 2024 – Apr 2024**

*Machine Learning Engineer Intern* · *Kolkata, India · Remote*

- Cut fraudulent transactions by 30% (saving $1M/year) via a credit card fraud detector with 98% accuracy. 
- Boosted campaign efficiency using an SMS/Email spam classifier with 95% precision and 92% recall. 
- Lowered customer churn by 20% (saving $500k/year) with a predictive model achieving 85% accuracy. 

### iNeuron.ai
**Jan 2024 – Feb 2024**

*Data Science Intern* · *Bengaluru, India · Remote*

- Improved energy efficiency by 40% by developing predictive models for energy management, construction, and structural planning, enabling data-driven decision-making.

## Projects

**Kidney Multi-Disease Classification** | *VGG-16, TensorFlow, DVC, MLflow, DagsHub, CI/CD, Pytest*                     **Aug 2023**
- Built a web app for multi-disease kidney classification from MRI images using VGG-16 (80% acc). Implemented robust MLOps with DVC, MLflow on DagsHub, CI/CD pipelines, and pytest for validation. ⊘

**Galaxy Morphology Classification** | *ViT, ResNet, Pytorch, Diffusion Models, Galaxy Zoo Dataset*                     **Dec 2024**
- Enhanced galaxy morphology classification on Galaxy Zoo, leveraging diffusion models for data augmentation and achieving 63% with Vision Transformers (ViT) by systematically progressing from VGG-16 and ResNet. ⊘

**Next Word Prediction Using Bidirectional LSTMs** | *Python, Tensorflow*                     **Jul 2023**
- Achieved 86% accuracy, enhancing text prediction user experience through advanced NLP techniques. ⊘

**Translation Using Seq2Seq Attention PyTorch Model:** Trained on a diverse dataset comprising 25,000 English-to-Urdu sentence pairs, improving accuracy above 70% on Cross val. ⊘

**Wheat Crop Detection:** Implemented a Fast-RCNN model for agricultural monitoring to efficiently assess wheat crop health and density. ⊘

## Education

**Govt. College University, Faisalabad**                     **Sep 2019 − Aug 2023**
*Bachelor's in Physics* | Linear Algebra, Calculus, Probability                     *CGPA: 3.35/4.0*