

Athar Parvez

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AI/ML Engineer & Research Assistant(4+ years). Deploying ML models and LLM solutions to production. Cut churn for Drahim a Saudi fintech with predictive modeling using ML; delivered RAG chatbots and fine-tuned LLMs. Expertise in Python, PyTorch/TensorFlow, LangChain, and AWS (Docker, MLflow); fluent in NLP/CV, end-to-end pipelines, and MLOps best practices. Open for PhD role

SKILLS

Machine Learning & Deep Learning : Python, Scikit-Learn, TensorFlow, PyTorch, Keras, OpenCV, Pandas, NumPy, NLTK, spaCy, GANs, Transformers, Feature Engineering, Hyperparameter Tuning(Optuna), Model Evaluation (F1-score, ROC-AUC, Accuracy) and MLOPs using Next_.

Generative AI: LangChain, LangGraph, OpenAI, Gemini, HuggingFace, Retrieval-Augmented Generation (RAG), Large Language Models (LLMs), Fine-tuning (including LoRA, QLoRA, and model quantization techniques), Transfer Learning, Prompt Engineering.

AI Automation & Orchestration: n8n, Zapier, MLflow and LangFlow.

Cloud and Databases: AWS, MongoDB, MySQL and Oracle.

Development & Version Control: Git and Docker.

Web Development: HTML, CSS, FastAPI (Postman, Thunder Client, Insomnia), Streamlit and Flask.

Data Visualization & Microsoft Tools: Seaborn, Matplotlib, PySpark, Tableau, Power BI, Excel, PowerPoint and Word.

WORK EXPERIENCE

Research Assistant (Jan, 2025 – present)

King Fahd University of Petroleum and Minerals(KFUPM)

- Conducted advanced research in **Machine Learning**, contributing to the development of innovative, data-driven solutions aligned with project objectives.
- Designed and executed experiments; collected, pre-processed, and analysed large-scale datasets using machine learning and deep learning frameworks including *Seaborn, Matplotlib, PySpark, Pandas, NumPy, Scikit-learn, PyTorch, TensorFlow, NLTK, spaCy, and OpenCV*.
- Developed comprehensive technical documentation, research reports, and professional presentations to effectively communicate findings to academic and industry stakeholders.
- Mentored undergraduate students by supervising their research tasks, providing technical guidance, and promoting collaborative teamwork to enhance their academic and practical skills.

Teaching Assistant (Aug, 2025 – Dec 2025)
King Fahd University of Petroleum and Minerals(KFUPM)

- Supporting the Software Engineering (**SWE-363**) course across three sections, assisting ~90 undergraduate students.
- **Leading weekly lab sessions**, providing hands-on guidance in debugging, code structure, and best programming practices.
- Managing course workflows using GitHub Classrooms for assignment distribution and automated grading.
- Administering quizzes via Blackboard and facilitating grading through Gradescope to ensure consistency and fairness.

Machine Learning Intern (Sep, 2025 – Sep 2025)
SkillCraft Technology(SCT)

- Applied Collected, cleaned, and structured raw datasets to ensure high-quality model input.
- Built baseline machine learning models, performed hyperparameter tuning, and evaluated performance.
- Learned and applied advanced ML techniques in supervised and unsupervised learning.
- Gained hands-on exposure to end-to-end ML workflow, including data gathering, preprocessing, model creation, and evaluation.

Machine Learning Intern (July, 2025 – Aug 2025)
Elevvo Pathways– Remote

- Applied machine learning techniques to real-world project tasks, gaining hands-on exposure to industry-standard workflows and tools.
- Delivered solutions with personalized mentor feedback, enhancing both technical implementation and practical problem-solving skills.

Teaching Assistant (Jan, 2024 – Jan 2025)
King Fahd University of Petroleum and Minerals(KFUPM)

- Assisted in teaching fundamental programming concepts using C and Python to approximately 60 undergraduate students per semester.
- Led weekly lab sessions, providing hands-on guidance in debugging, code structure, and best programming practices.
- Designed, administered, and graded lab tests and programming assignments.

AI/ML Engineer (3 Years) (April, 2021 – Jan, 2024)

Tata Consultancy Services(TCS)

- Developed and deployed **Machine Learning and Deep Learning models** to support financial applications, including tasks such as **classification, prediction, and anomaly detection**.
- Fine-tuned **pre-trained models and LLMs** using techniques like **LoRA, QLoRA, and transfer learning**, adapting them to domain-specific datasets.
- Built **end-to-end ML pipelines** from data preprocessing, feature engineering, and training to deployment, ensuring models met **business and performance requirements**.

PUBLICATIONS

Generalizable Diabetes Risk Stratification via Hybrid Machine Learning Models Submitted to *Journal of Diabetes and Its Complications Q1*

(Confidential)

- Contributed as a **first author to a research study** on diabetes risk prediction.
- Developed hybrid machine learning models for accurate risk stratification, combining traditional statistical methods with advanced ML techniques.
- Collaborated with researchers to design experiments, preprocess clinical datasets, and evaluate model generalizability.

Usability Requirements Catalog for Modeling Dynamic User Interactions in Mobile Applications

- Proposes a graph-based usability requirements catalog for dynamic mobile interactions (touch, gestures)
- Structures relationships among key factors (e.g., Efficiency, Learnability, Errors) and maps them to design/evaluation.
- Validated with experts to ensure practical applicability for developers

PROJECTS

Churn Prediction for Fintech Retention Strategies

(Confidential)

- Developed a churn prediction model for *Drahim*, a Saudi-based fintech company, using machine learning techniques to identify at-risk customers and support retention strategies.

Purchase Order Item Categorization.

([GitHub Link](#))

- Processed multilingual purchase order text data and built an ML pipeline with embeddings and clustering to classify items, enhancing categorization accuracy and spend analysis.

Duplicate Question Detection on Quora Dataset

[\(GitHub Link\)](#)

- Built an NLP pipeline with ML models to classify duplicate questions using token, fuzzy, and semantic features on Quora Dataset.
- Deployed an interactive Streamlit app for real-time duplicate detection on Heroku.

iArabUI: A Large Dataset for Arabic-Supported iOS Mobile Applications

[\(GitHub Link\)](#)

- Creating iArabUI, the first comprehensive dataset of Arabic-language iOS app interfaces, leveraging LLMs for automated UI labeling to advance accessibility, HCI, and intelligent UI design.

YouTube RAG: A Chatbot for YouTube Video Transcript Understanding

[\(GitHub Link\)](#)

- Built a Retrieval-Augmented Generation (RAG) chatbot that answers questions about YouTube videos by extracting transcripts via YouTubeLoader, converting them into embeddings using FAISS/Chroma, and generating responses using OpenAI/HuggingFace LLMs based on semantically retrieved content.

TCS BaNCS: AI-Driven Predictive Analytics Platform for Financial Services

[\(GitHub Link\)](#)

- Developed and fine-tuned ML/DL models and LLMs for predictive analytics, integrating SQL data pipelines and deploying AI-driven microservices with Docker, Kubernetes, and AWS.

EDUCATION

- **King Fahd University of Petroleum and Minerals (67 QS World Wide in 2025)**
Master's in Computer Science (GPA 3.4/4) *(Jan 2024 - Present)*
- **Maulana Azad National Urdu University**
Bachelors in Computer Science (GPA 3.5/4) *(Aug 2016 - May 2020)*

CERTIFICATIONS

- **Python Basics** – University of Michigan, Jan 2024 | Credential ID: CZ8HXFHOXK8N
- **LangChain for LLM Application Development** – DeepLearning.AI, Aug 2025
- **Finetuning Large Language Models** – DeepLearning.AI, Feb 2025
- **Generative AI for Everyone** – DeepLearning.AI, June 2025
- **AI Agents in LangGraph** – DeepLearning.AI, April 2025
- **n8n Course: No Code AI Agent Builder** – Simplilearn, Aug 2025

REFERENCES

- **Dr Omar Jamal Hammad**
Assistant Professor, Information & Computer Science Department, KFUPM [\(\[omarjh@kfupm.edu.sa\]\(mailto:omarjh@kfupm.edu.sa\)\)](mailto:omarjh@kfupm.edu.sa)
- **Dr Adel Fadhl Ahmed Noor**
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