

# Muhammad Ghulam Jillani

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## Profile

Senior Data Scientist Machine Learning Engineer with strong expertise in Generative AI LLM, specializing in the development and deployment of advanced AI solutions. Expert in enhancing data processing capabilities and driving innovation in SaaS and PaaS environments. Skilled in creating user-friendly AI applications and optimizing data workflows. Proven track record of leveraging AI to solve complex business problems and improve operational efficiency.

## Technical Skills

- Programming & Development:** Python, Scikit-Learn, TensorFlow, Keras, PyTorch, NLTK, Transformers, EDA, ETL, PySpark, Matplotlib, Plotly, Open-CV, SQL, Vector DB, Flask, Streamlit, Docker, GitHub Action, CI/CD, NoSQL, Git.
- Data Science & AI:** Machine Learning, Deep Learning, Data Analysis, Predictive Modeling, Artificial Intelligence, Statistical Modeling, Data Visualization, Data Engineering, Model Deployment, Time Series Analysis, Cloud Machine Learning, Big Data, Technologies, NLP, Prompt Engineering, Generative AI, LangChain, RAG, LLama-index, LLM Models.
- Management & Operations:** Business Analysis, Cloud Platforms (Heroku, GCP, Azure, AWS), MLOps, AIOps, ML flow, Auto ML, PyCaret, Process Automation, Stakeholder Management, Decision-Making, Power Bi, Agile Methodologies, Microservices, Team Building, Project Management, Product Management.
- Communication & Collaboration:** Effective Communication, Collaboration, Stakeholder Management, Team Building.
- Languages:** English – All professional proficiency.

## Experience

<b>Senior Data Scientist &amp; Machine Learning Engineer</b>	<b>BlocBelt</b>	<i>Maryland, USA</i>	<b>12/2022 – Currently</b>
<ul style="list-style-type: none"><li>Led the development of AI-driven predictive models using TensorFlow and PyTorch, enhancing analytics and strategicdecision-making.</li><li>Optimized data workflows with PySpark and SQL/NoSQL, improving data processing and analytics.</li><li>Implemented and scaled AI solutions in cloud environments like AWS and GCP, using Docker and Kubernetes for deployment management.</li><li>Drove innovation in SaaS and PaaS solutions through strategic AI initiatives, incorporating CI/CD pipelines to streamline development and deployment processes.</li><li>Directed data scientists and engineers, employing Agile and ML Ops tools for enhanced project management.</li><li>Developed web applications and APIs using Flask and Streamlit, integrating complex AI models, including generative AI, into user-friendly interfaces.</li><li>Integrated NLP and generative AI into products, significantly boosting user engagement and growth.</li><li>Created dynamic data visualizations using Matplotlib, Plotly, and Power BI for better insight accessibility.</li><li>Advanced technology integration with deep learning frameworks like Keras, focusing on generative AI and NLP.</li></ul>			
<b>Artificial &amp; Machine Learning Engineer</b>	<b>Crypto Express</b>	<i>Thailand</i>	<b>10/2020 – 11/2022</b>
<ul style="list-style-type: none"><li>Developed advanced machine learning algorithms with Python, TensorFlow, and Scikit-Learn, significantly improving predictive modeling. Created an Anti-Spoofing Face-App, reducing identity fraud by 70% and enhancing digital security.</li><li>Played a key role in the design and implementation of data processing pipelines, employing ETL techniques and PySpark forefficient data management.</li><li>Utilized NLP and generative AI technologies to innovate and improve solutions across various applications.</li><li>Engineered AI solutions, integrating deep learning frameworks like PyTorch to solve complex industry challenges.</li><li>Collaborated in an Agile development environment, contributing to rapid prototyping and deployment of scalable AI projects.</li><li>Optimized and maintained AI applications in production environments, utilizing Docker and GitHub Actions for continuous integration and delivery.</li><li>Applied ML Ops tools such as MLflow and AutoML to streamline model deployment and performance tuning.</li><li>Actively participated in developing cloud-based AI solutions, leveraging AWS and GCP to enhance computational efficiency and scalability.</li></ul>			
<b>Artificial Intelligence Engineer</b>	<b>Pakistan Freelancing Training Center</b>	<i>Lahore, Pakistan</i>	<b>01/2020 - 09/2020</b>
<ul style="list-style-type: none"><li>Led training sessions for students in AI and Data Science techniques, equipping them to address real-world challenges.</li><li>Designed and deployed models using TensorFlow and Keras, enhancing system efficiency and accuracy.</li><li>Played a pivotal role in bridging the gap between academic learning and industry-relevant skills.</li><li>Successfully deployed AI/ML projects in a remote work setting, adapting to dynamic conditions and gaining valuable experience in the AI/ML field.</li><li>Automated repetitive data tasks using Python, significantly reducing manual labor and error rates.</li><li>Engaged in ongoing AI research to apply cutting-edge technologies and methodologies in projects.</li></ul>			

## Projects

- Health Assistance Application (Generative AI)**

**Description:** Built a comprehensive health assistance application using the Gemini Pro LLM model, RAG, and LangChain. This application aids both doctors and patients by providing detailed medical information, diagnosing symptoms, suggesting treatments, and offering preventive healthcare advice. The integration of generative AI ensures accurate and personalized health recommendations, enhancing patient care and medical consultations.
- Agricultural Health Detection System**

**Description:** The platform collects data from various agricultural sensors, analyzes it to detect plant diseases, and provides actionable insights to farmers. This project aids in maintaining crop health, optimizing yields, and reducing losses due to disease outbreaks.
- End-to-End BlogGenAI Chatbot (LLM)**

**Description:** Developed an advanced BlogGenAI Chatbot using Llama 3 8B and AWS Bedrock services. This project employs Retrieval Augmented Generation (RAG) for dynamic fine-tuning on updated datasets, enabling the creation of highly realistic AI-generated blog content. The chatbot provides a seamless experience for generating and managing blog posts, integrating with content management systems (CMS) to automate content creation, editing, and publishing processes. This solution enhances content marketing strategies and improves engagement by delivering high-quality, relevant blog content.
- Legal Document Analysis Chatbot (LLM)**

**Description:** Created a Python Flask-based web application using the Gemini Pro LLM model for AI-driven discussions on legal PDF documents. This chatbot significantly enhances document management and analysis efficiency by providing a custom AI chat interface. Users can query legal documents, receive contextual answers, and streamline legal research and document review processes. The solution is deployed on AWS, leveraging its robust cloud infrastructure to ensure scalability and reliability.
- Low-Code No-Code Predictive Analytics Platform (LLM)**

**Description:** Developed a user-friendly predictive analytics platform utilizing GPT-4 Turbo LLM Model and PyCaret. This platform empowers non-technical users to perform classification and regression tasks on CSV datasets with ease. Hosted on Heroku, it supports data cleaning, exploratory data analysis, automated machine learning, and hyper parameter optimization. The solution democratizes advanced analytics, enabling business users to derive insights without extensive technical knowledge, thereby accelerating data-driven decision-making across the organization.
- DocuWiz AI (LLM)**

**Description:** Developed an AI-powered document intelligence application to analyze various document types, including PDFs, DOCX, TXT, PPTX, CSV, and XLSX. Implemented features such as text extraction, summarization, sentiment analysis, and topic modeling using advanced NLP models like BART and DistilBERT. Integrated Retrieval-Augmented Generation (RAG) and large language models (LLMs) for enhanced document analysis. Added data analysis for CSV and Excel files, providing statistical insights and visualizations. Utilized Streamlit for an interactive UI and deployed the application on GitHub.

## Education

<b>Bachelor in Computer Science (Major: Artificial Intelligence and Computer Science)</b>	<b>Institute of Management Sciences</b>
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## CERTIFICATIONS

- IBM Machine Learning Specialization Professional Certificate**, IBM.
- Deep Learning Specialization**, Deeplearning.ai.
- Machine Learning Specialization**, DeepLearning.AI.
- Google Advanced Data Analytics Professional Certificate**, Google.
- Google Business Intelligence Professional Certificate**, Google.
- Advanced Machine Learning on Google Cloud Specialization**, Google Cloud.
- MLOps | Machine Learning Operations Specialization**, Duke University.
- AI Product Management**, Duke University.
- Generative Adversarial Networks (GANs) Specialization**, Deeplearning.ai.
- Machine Learning Engineering for Production (MLOps)**, DeepLearning.ai.
- Microsoft Azure AI Fundamentals AI-900 Exam Prep Specialization**, Microsoft.
- Preparing for Google Cloud Certification: Machine Learning Engineer**, Google.
- Google Project Management: Professional Certificate**, Google.
- Prompt Engineering for ChatGPT**, Vanderbilt University.
- AWS Cloud Solutions Architect Professional Certificate**, Amazon Web Services.
- Practical Data Science on the AWS Cloud Specialization**, DeepLearning.ai.