

USAMA YASEEN

Data Scientist | AI & ML Engineer | Generative AI & Agentic Systems

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SUMMARY

Data Scientist & AI/ML Engineer with 2+ years of experience in machine learning, deep learning, and generative AI. Skilled in LLM fine-tuning, Retrieval-Augmented Generation (RAG), and multi-agent systems using LangChain, LangGraph, and LangFlow with a proven track record of building 30+ RAG-powered applications. Hands-on expertise with Transformers, CNNs, RNNs, LSTMs, and YOLO for NLP and computer vision tasks. Experienced in developing AI-powered voice agents with STT/TTS integration, real-time audio processing, and low-latency pipelines using frameworks like LiveKit and Twilio. Strong background in MLOps, cloud deployment (AWS, GCP), and big data tools (Hadoop, Spark) for large-scale data processing. Passionate about building scalable AI solutions that drive real-world impact in healthcare, finance, and communication.

WORK EXPERIENCE

Lead Data Scientist, Aug AI 02/2025 – Present

- **AI/ML Solutions Leadership:** Directed end-to-end design and deployment of advanced AI/ML solutions, including LLMs, RAG pipelines, and multi-agent systems, ensuring scalability, accuracy, and efficiency.
- **Client & Stakeholder Management:** Owned client relationships from requirement gathering to delivery, led presentations to stakeholders, and collaborated with business development to secure projects.
- **Technical Strategy & Architecture:** Designed system architectures, workflows, and documentation, translating business needs into scalable technical specifications.
- **Team Leadership:** Managed and mentored AI teams, fostering innovation, best practices, and high-quality deliverables.
- **Product Innovation:** Led R&D, feasibility studies, and MVP development to validate and deliver cutting-edge AI solutions.

Data Scientist, Aug AI 03/2024 – 02/2025

- Built and deployed FinHealer, an AI-driven fintech app for forecasting, fraud detection, and financial advisory.
- Developed and optimized RAG pipelines, fine-tuned LLMs, and multi-agent systems for real-world NLP and decision-making.
- Integrated computer vision models (YOLO, CNNs) and voice AI agents with STT/TTS integration.

Data Science Intern, Aug AI 11/2023 – 03/2024

- Contributed to computer vision projects, including video frame capturing, object detection, and sequence modeling for sports/game outcome prediction.
- Built and experimented with LSTM-based models for temporal data and video analytics.
- Gained hands-on experience in audio processing, NLP frameworks.

EDUCATION

BS Computer Science, University of Central Punjab 2020 – 2024 | Lahore, Pakistan

- Focused on AI, ML, and Deep Learning with hands-on projects in computer vision (ChestXGPT, Skin Cancer Detection) and NLP applications. Completed advanced coursework in ML, NLP, and distributed systems, building a strong foundation for real-world AI solutions.

SKILLS

Large Language Models & AI APIs

- **LLM Platforms:** OpenAI, Claude, Groq, Gemini
- **Open Source Models:** Llama, Phi, DeepSeek, BERT, T5
- **Model Hubs:** Hugging Face

Voice & Audio Processing

- **Voice Systems:** Voice Agents (STT/TTS), Twilio Call Systems, OpenAI Realtime API, LiveKit
- **Audio Analysis:** Voice Activity Detection (VAD), Speaker Diarization

Computer Vision

- **CV Libraries:** OpenCV, MediaPipe
- **Pre-trained Models:** YOLO, FaceNet, InceptionV3, VGG, ResNet, DenseNet, U-Net
- **CV Applications:** Image Classification, Object Detection, Semantic Segmentation
- **Custom Model Development:** Custom CNN architectures and fine-tuning

Data Science & Analytics Data Processing

- **Data Processing:** Pandas, NumPy
- **Statistical Analysis:** Scipy, Statsmodels
- **Visualization:** Matplotlib, Seaborn, Plotly, Tableau
- **Machine Learning:** Scikit-learn, Feature Engineering, Model Evaluation
- **Exploratory Data Analysis (EDA):** Data Profiling, Statistical Testing

Cloud & Infrastructure

- **AWS Services:** SageMaker, S3, EC2, Lambda
- **Containerization:** Docker
- **Task Queue:** Celery

AI Application Development

- **LLM Orchestration & Development:** LangChain, LlamaIndex, LangGraph, LangSmith
- **AI Workflow & Automation Tools:** LangFlow, Flowise, n8n, Zapier
- **RAG Systems & Agentic Workflows**

Automation & Integration

- **Workflow Automation:** n8n, Zapier
- **Desktop Automation:** Claude Computer Use, OpenAI Computer Use

Machine Learning & AI Frameworks

- **Deep Learning:** TensorFlow, PyTorch, Keras
- **Traditional ML:** Scikit-learn, XGBoost, LightGBM, CatBoost
- **Neural Networks:** CNNs, Transformers, Vision Transformers, Transfer Learning

Development & Project Management

- **Python Frameworks:** Django, Flask, FastAPI
- **APIs:** REST APIs
- **Version Control:** Git, GitHub, GitLab, Bitbucket
- **Project Management:** Jira


Databases

- **SQL:** MySQL
- **NoSQL:** MongoDB
- **Vector Databases:** FAISS, Pinecone, Weaviate, ChromaDB, Milvus

PROJECTS

Public Agent (Computer Use Platform – Codsy.ai),

07/2025 – Present

Lead Developer & System Architect 

- Architected a virtual desktop platform enabling Claude AI to autonomously perform computer interactions.
- Built multi-user Kubernetes infrastructure with JWT auth and namespace isolation.
- Deployed on AWS with containerized desktop environments accessible via noVNC.
- **Technologies:** Anthropic Claude API, Kubernetes, Docker, AWS (EC2, S3, Route 53), FastAPI, MongoDB.

Form Filling Agent, Technical Architect & Lead Developer

05/2025 – Present

- Led development of AI-powered document automation with 7+ specialized agents for compliance, budgeting, and research.
- Automated Lithuanian R&D form filling, achieving **90%+ reduction** in manual effort.

- Integrated multilingual AI (English ↔ Lithuanian) and Microsoft Graph API for business plan drafting.
Technologies: Llama 3.1/4, Groq API, FastAPI, Docker, MongoDB, Microsoft Graph API, Swagger/OpenAPI.

Codsy.ai Agent Platform, Lead Engineer & Technical Architect 03/2025 – 06/2025

- Spearheaded development of an AI-powered coding assistant platform with multi-agent architecture.
- Managed an 11-member team and successfully demonstrated beta to investors and enterprise clients.
- Implemented enterprise integrations (Graph API, Teams, SMTP) and auto-scaling infrastructure.
- **Technologies:** Python, OpenAI/Groq APIs, Microsoft Graph API, Docker, GCP, Azure, JIRA, GitHub Actions.

Number Plate Detection System, AI Engineer & Team Lead 02/2025 – 08/2025

- Led development of an AI-powered vehicle recognition system integrated with loyalty and payment workflows.
- Achieved **97.2% precision** with YOLOv11n/v12n models for plate detection and EasyOCR for text recognition.
- Delivered MVPs, client demonstrations, and maintained GDPR-compliant infrastructure.
- **Technologies:** YOLOv11n/v12n, EasyOCR, MongoDB, Streamlit, Python, GDPR Compliance.

Real-Time Calling Agent (LiveKit), AI Engineer 11/2024 – 01/2025

- Built a real-time voice agent handling inbound/outbound calls with transcription and spam detection.
- Integrated LiveKit for robust communication infrastructure and real-time processing.
- Implemented caller schema with whitelist/blacklist and performance-optimized pipelines.
- **Technologies:** LiveKit, Python, Real-time Transcription, Spam Detection Algorithms, Audio Processing.

FinHealer, AI Engineer & Technical Lead 10/2024 – 04/2025

- Led the development of a full-stack, AI-powered financial health analysis platform, coordinating an 8-member multidisciplinary team.
- Designed and deployed 6 specialized AI modules, including advanced time series forecasting (Prophet, LSTM, ARIMA, SARIMA) and a premium AI chatbot for financial summaries.
- Managed successful delivery of web and mobile applications, overseeing production deployment, scaling, and app store releases.
- **Technologies:** Prophet, LSTM, ARIMA, SARIMA, TensorFlow, PyTorch, OpenAI GPT, Claude AI, Stripe API.

Automated Data Analyst Agent, AI Engineer 08/2024 – 09/2024

- Developed an agent that automates CSV data processing, visualization, and generates natural language insights.
- Enabled non-technical stakeholders to interpret complex data with GPT-powered explanations.
- Created dynamic visualizations with Pandas and Matplotlib for business intelligence.
- **Technologies:** Pandas, Matplotlib, GPT-3/4, LangChain, Python.

Fraud Detection System for Banking Transactions, 05/2024 – 09/2024

AI Engineer

- Built an end-to-end fraud detection platform for real-time banking transaction monitoring with anomaly detection.
- Reduced false positives while maintaining high accuracy through optimized ML models.
- Integrated explainable AI using Anthropic Claude API for transparent fraud detection justifications.
- **Technologies:** Python, AWS SageMaker, S3, CI/CD, Anthropic Claude API, Anomaly Detection.

AI-Powered Research Assistant, AI Engineer 04/2024 – 05/2024

- Developed an intelligent research assistant with automated research, deep web scraping, and NLP-based summarization.
- Integrated GPT-3/4 for enhanced clarity, coherence, and quality of responses.
- Automated professional report generation in PDF and Word formats.
- **Technologies:** FastAPI, BeautifulSoup, Scrapy, Selenium, GPT-3/4, PDFKit, python-docx

Financial Bot for Valuation and Earnings Call Analysis,

01/2024 – 03/2024

Lead AI Engineer

- Built a financial assistant for valuation analysis and earnings call transcript summarization using multi-agent systems.
- Implemented MongoDB and vector databases for fast financial document retrieval.
- Designed a secure API with JWT authentication for multi-user support.
- **Technologies:** MongoDB, Vector Databases, OpenAI, JWT, Python.

CERTIFICATIONS

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| • Generative AI for Everyone | • Retrieval Augmented Generation (RAG) | • ChatGPT Prompt Engineering for Developers |
| • Fast Prototyping of GenAI Apps with Streamlit | • AI for Everyone | • Building Multimodal Search and RAG |
| • Computer Vision | • Deep Learning Specialization | |