

SAMIULLAH

AI Engineer & Machine Learning Specialist

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Professional Summary

Highly motivated and detail-oriented AI Engineer with 16+ months of hands-on experience in machine learning, deep learning, and MLOps. Proven track record of developing and deploying production-grade AI solutions across computer vision and NLP domains. Expert in building end-to-end ML pipelines, from data preprocessing to model deployment, with strong expertise in real-time systems, content automation, and advanced AI architectures.

Core Competencies: - Medical AI (YOLO, Image Segmentation, Real-time Detection) - Advanced NLP & RAG Systems (Multi-query Expansion, Query Decomposition, RAG Fusion) - Full-stack AI Development (FastAPI, React, Docker, Cloud Deployment) - Content Automation & LLM Integration (LangGraph, Human-in-the-Loop Workflows)

Education

University of Haripur | BS Computer Science | 2022 - 2026 - Relevant Coursework: Machine Learning, Data Structures, Algorithms, Software Engineering - Expected Graduation: 2026

Technical Skills

Programming & Languages

- **Languages:** Python, SQL, JavaScript, TypeScript
- **Specialization:** AI/ML Python Ecosystem

AI/ML Frameworks & Libraries

- **Deep Learning:** PyTorch, YOLO
- **Data Science:** NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn
- **NLP:** Transformers, LangChain, LangGraph, OpenAI GPT

Full-Stack Development

- **Backend:** FastAPI,
- **Frontend:** React, TypeScript, HTML/CSS, JavaScript
- **Databases:** PostgreSQL, MongoDB

- **Framework:** Langchain, Langgraph

MLOps & DevOps

- **Containerization:** Docker, Docker Compose
- **Version Control:** Git/GitHub, DVC (Data Version Control)
- **CI/CD:** GitHub Actions, Automated Pipelines
- **Monitoring:** MLflow, Model Tracking
- **Cloud:** AWS EC2, Cloud Deployment

Advanced AI Concepts

- **RAG Systems:** Multi-query Expansion, Query Decomposition, RAG Fusion, Re-ranking
 - **Human-in-the-Loop:** Feedback Systems, Approval Workflows
 - **Real-time Systems:** Webcam Integration, Live Processing
 - **Content Automation:** Topic Discovery, Relevance Scoring, SEO Optimization
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Professional Experience

AI Engineer | Emulxion.ai | Remote

Duration: January 2024 - Present (11+ months)

Acne Detection & Segmentation System

- **Computer Vision Project:** Developed and deployed an advanced acne segmentation model using YOLO (You Only Look Once) object detection architecture
- **Model Performance:** Achieved 90%+ accuracy with continuous improvement through enhanced data preprocessing and hyperparameter tuning
- **Full-Stack Integration:** Built React-based frontend allowing users to upload images or capture from real-time webcam for acne detection and segmentation
- **Technical Implementation:** Integrated model with FastAPI backend, implemented Docker containerization for scalable deployment

Advanced RAG System Development

- **NLP Innovation:** Engineered sophisticated Retrieval-Augmented Generation (RAG) system with multi-query expansion capabilities
- **Query Processing:** Implemented query decomposition techniques for better understanding of complex user intents
- **RAG Fusion:** Developed advanced RAG fusion methodology combining multiple retrieval strategies
- **Re-ranking Systems:** Built intelligent re-ranking algorithms to optimize search result relevance
- **Production Deployment:** Deployed production-ready RAG system with real-time query processing capabilities

AI/ML Engineer | Revnix

Duration: June 2024 - Present (5+ months) - **Currently Working**

WREXT - Content Automation Platform

- **System Architecture:** Built WREXT (Full Blog Automation with Human Feedback) - a production-oriented, modular content automation pipeline
- **Technology Stack:** Leveraged LangGraph, OpenAI GPT, Python, PostgreSQL, and Redis
- **Core Features Implemented:**
 - Automated topic discovery from WordPress and internal sources
 - Relevance and trend scoring algorithms for article ranking
 - Full article extraction and content combination for contextual grounding
 - LLM-generated outlines with human approval workflow
 - Final multi-section blog generation with SEO optimization
- **Dashboard Development:** Created Streamlit dashboard for configuration and human-in-the-loop review
- **Backend Architecture:** Implemented LangGraph-powered backend API with Docker-ready containerization
- **Data Management:** Integrated PostgreSQL for state persistence and Redis for workflow management
- **Migration Tools:** Developed full migration tooling with Alembic (async support)
- **Code Quality:** Maintained clean modular codebase structure (src/data, src/model, src/nodes, src/states, src/utis, src/workflow)

Product

TheBotLab - AI Chatbot Platform Development

- **Full-Stack Platform:** Developing TheBotLab - a comprehensive platform for businesses to build, test, and deploy AI-powered chatbots
- **Product Vision:** Creating production-grade chatbot solutions with intuitive workspace for conversation flow design
- **Technical Features:**
 - LLM integration with external tools and APIs
 - Prebuilt templates and blank canvas options
 - Live sandbox testing environment
 - Multi-platform deployment capabilities
- **Architecture Design:**
 - Backend: FastAPI with async SQLAlchemy
 - RBAC System: Modular role-based access control (Admin, Organization Admin, Developer, End-User)
 - Multi-tenant support for secure team collaboration

- API-first extensibility for seamless integrations
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Projects

YouTube Comment Analyzer (Chrome Extension)

Technologies: Python, NLP, FastAPI, MLflow, Docker, GitHub Actions - Chrome extension for real-time sentiment analysis - Natural Language Processing for comment classification - Trend visualization for content creators - Scalable API deployment with CI/CD integration

Multi-Modal Text Correction System

Technologies: Google GenAI, OCR, Python, FastAPI - Text correction with OCR image processing - Speech-to-text conversion with audio correction - Interactive English learning agent - Multi-format input support (text, image, audio)

Professional Development

Certifications & Training

- Data Science Mentorship Program
- 100 Days of Machine Learning Challenge
- Google Crash Course on Python
- Foundation of Data Science
- ZABIST AI CUP 2024 (Competition Participant)