RITESH PATIL

Pune, Maharashtra, India

7028111146 riteshpatil702811@gmail.com Ritesh-Patil Ritesh-Patil

SUMMARY:

Machine Learning Engineer skilled in Python-based AI development, specializing in YOLO, TensorFlow, Generative AI, and RAG systems. Experienced in industrial object detection with annotation and augmentation workflows. Strong background in AWS, Docker, and CI/CD, delivering high-accuracy models and scalable intelligent systems across medical, vision, and industrial domains.

PROFESSIONAL EXPERIENCE:

Machine Learning engineer   **AUTOMATION TEKNIX**   Nov 2025-present
- Built an end-to-end Python based YOLO object detection pipeline with manual annotation, dataset augmentation, preprocessing, TensorFlow-based model training for industrial part classification

Web Developer (Intern)   **Jnana Prabodhini**   Jan 2025 - june 2025
- Contributed to developing both offline and online versions of the Virtual Kiosk using AngularJS, enabling content delivery through smart JSON routing with .exe deployment and YouTube fallback
- Engineered a responsive UI using core AngularJS principles enhancing kiosk interactivity and user engagement across platforms

EDUCATION:

P.G Diploma in (AI & ML)   **MITWPU**   July 2024 – May 2025
- Relevant Coursework:Machine Learning, AI, Data Mining, Neural Networks, NLP, Computer Vision, Statistical Analysis, Deep Learning: applied concepts through hands-on projects

BSc Computer Science   **Abasaheb Garware college**   Aug 2020 – june 2023
- Computer Networks, Database Systems, Algorithms, Programming Languages, Computer Architecture, and AWS Cloud

CERTIFICATION:

Oracle Cloud Infrastructure 2025 Certified Generative AI Professional | LLM, RAG

GenAI & LLM Workshop | LMStudio, AnythingLLM, RAG, HuggingFace, Prompting Strategies

AWS Academy cloud foundation | Skilled in EC2, S3, Lambda, API Gateway, RDS, VPC, IAM

LANGUAGES AND TECHNOLOGIES:

Languages :	Python , C , R, SQL
Libraries :	Pandas, Numpy, Scikit-learn, openCV, Matplotlib, Seaborn, LangChain, LangGraph
AI/ML skill:	Generative AI, Agentic AI, Deep Learning, LLM, RAG, image processing
Data Analysis:	Power BI, Tableau, Excel, Data Cleaning, Dashboard Design
AWS :	AWS (EC2, S3, Lambda, RDS, IAM, VPC), Docker, CI/CD

PROJECTS:

Medical Chatbot (RAG, LangChain, GPT-4, Pinecone, AWS, Docker)
- Built end-to-end RAG-based chatbot using 637-page medical textbook with Sentence Transformer embeddings
- Orchestrated LangChain, GPT-4, and Pinecone for retrieval-augmented, context-aware medical query resolution
- Implemented CI/CD pipeline with GitHub Actions, containerized with Docker, and deployed on AWS EC2

Heart Disease Prediction Using Retina Images (YOLO, TensorFlow, OpenCV)
- Implemented YOLO for precise detection and classification of retina features linked to heart disease, improving detection
- Utilized Roboflow for annotating 800+ images and training data, reducing preprocessing time by 50%
- Designed and trained CNNs in TensorFlow and OpenCV, increasing marker identification accuracy by 25%

Employment Assistance Tool using LLMs, RAG, and Neo4j
- Developed an AI-powered employment tool using LLMs, improving job-role matching accuracy by 30%
- Applied **Retrieval Augmented Generation (RAG)** to speed up search and enhance recommendation quality
- Integrated APIs and Neo4j knowledge graph to generate personalized results, boosting engagement by 25%

Movie Recommender System
- Built a content-based movie app using Streamlit and TMDb API, fetching 1,000+ dynamic posters
- Recommended top 5 movies based on preferences, achieving a 95% user satisfaction rate
- Serialized ML models using Pickle to enhance speed and improve recommendation accuracy by 15%

AWS Cloud Migration - Lift and Shift Approach
- Migrated multi-tier applications to AWS cloud with minimal changes, increasing uptime to 99.5%
- Reduced cloud infrastructure costs by 15% using Auto Scaling, ELB, and resource optimization
- Managed deployment using EC2, S3, Route 53, and VPC for scalable, high-performance architecture