Rahul Singh

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# SUMMARY

AI/ML professional with 1+ years of experience in **Machine Learning, Generative AI, and Computer Vision**. Skilled in developing and optimizing models using modern AI frameworks, with strong problem-solving and data-driven decision-making abilities.

# EDUCATION

B.Tech from Madhav Institute of Technology and Science — June,2021

# WORK EXPERIENCE

# Data Scientist (1+ year)

# Built and optimized XGBoost, ANN, and RNN models for predictive analytics and customer behavior forecasting.

# Developed a CNN-based project for extracting text from scanned bills, deployed end-to-end on AWS using CodePipeline, Lambda, and S3.

# Created custom object detection models (YOLO) and image classification/segmentation solutions using PyTorch & OpenCV.

# Implemented time series forecasting (SARIMA) for customer demand prediction.

# Automated ML pipeline using GitHub Actions, containerized models with Docker, and deployed on AWS Elastic Beanstalk.

# Data Analyst (1.5 years)

# Designed and developed interactive dashboards in Power BI and Tableau for business reporting and insights.

# Analyzed large datasets using SQL, Python, and Pandas, delivering actionable insights for stakeholders.

# Implemented ETL processes and supported data migration for enterprise projects.

# SQL Administrator (1 year)

# Managed and optimized SQL databases for performance and reliability.

# Performed query optimization, indexing, and stored procedure development.

# Ensured data security, backup, and recovery for critical enterprise systems.

# PROJECTS

•  **Image Classification & Segmentation** | *PyTorch, OpenCV*  
Built and fine-tuned CNN models with **hyperparameter tuning**, achieving high accuracy in image classification and segmentation tasks.

 **Custom Object Detection** | *YOLO, OpenCV*  
Trained and deployed **YOLO-based object detection** models for domain-specific use cases with improved detection performance.

 **Conversational AI & RAG Application** | *LangChain, Groq, LLMs*  
Developed a **Q&A chatbot with Retrieval-Augmented Generation (RAG)** and integrated custom search engine capabilities using **LLMs**.

 **Time Series Forecasting** | *SARIMA*  
Built and optimized **time series models** to predict customer demand trends, enabling better decision-making.

 **MLOps & Deployment** | *Docker, GitHub Actions, AWS*  
Automated ML pipeline with **GitHub Actions**, containerized models using **Docker**, and deployed on **AWS Elastic Beanstalk** for scalable production deployment.

# SKILLS

#  Programming & Scripting: Python, SQL, Bash

#  Machine Learning & AI: XGBoost, Random Forest, ANN, RNN, SARIMA, Regression/Classification, Hyperparameter Tuning

#  Deep Learning & Computer Vision: CNNs, PyTorch, TensorFlow, OpenCV, YOLO, Image Classification & Segmentation

#  Generative AI & NLP: LangChain, LLMs, RAG Applications, Conversational Chatbots, Hugging Face

#  MLOps & Deployment: Docker, GitHub Actions, AWS (Lambda, S3, CodePipeline, Elastic Beanstalk), CI/CD

#  Data Visualization & Analytics: Power BI, Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn

#  Tools & Platforms: Git, Jupyter, VS Code

# Certification

AWS Certified Machine Learningg Engineer – Associate

AWS Certified AI Practitioner certification

PL-300 Power BI Data Analyst