

# Harsh Anand

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## Profile

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Experienced Data Scientist with 6+ years of expertise in designing, deploying, and monitoring scalable ML, NLP, and Generative AI solutions across banking, insurance, and IT domains. Proficient in leveraging cloud platforms including AWS (SageMaker, Bedrock, Lambda, S3, Glue, EMR, Redshift, EKS) and Azure (Azure ML, Cognitive Services, Databricks, Synapse, Data Factory, AKS, Event Hubs) to enable real-time, production-ready AI deployments. Skilled in developing APIs for ML inference (REST/gRPC), containerization with Docker & Kubernetes, and orchestrating end-to-end ML pipelines using MLflow, Kubeflow, and Airflow. Hands-on experience with streaming data platforms such as Kafka and Spark Streaming for real-time analytics. Successfully deployed and managed AI solutions using AWS SageMaker endpoints, Lambda for serverless inference, EKS for container orchestration, and Azure ML endpoints with AKS integration—ensuring scalable, monitored, and high-availability operations across cloud environments.

## MAIN SKILL AREA

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### Machine Learning & AI:

Predictive Modeling, Text Mining, Deep Learning, Neural Networks, Natural Language Processing (NLP), Computer Vision, Generative AI (LLMs, GPT-based, RAG Architectures), Model Validation, Feature Engineering, Model Interpretability (SHAP, LIME), Responsible AI

### Programming & Frameworks:

Python, R, SQL, TensorFlow, PyTorch, Keras, Scikit-learn, Hugging Face (Transformers, Diffusers), LangChain, LlamaIndex, spaCy, NLTK

### Cloud Platforms & Services:

**AWS:** SageMaker (Studio, Pipelines, Feature Store, Endpoints), Bedrock, Lambda, Glue, EMR, Redshift, S3, EKS (Kubernetes), API Gateway, CloudWatch, **SageMaker Model Monitor, SageMaker Clarify, IAM, CodePipeline, CodeBuild**  
**Azure:** Azure ML (Studio, Pipelines, Endpoints), Cognitive Services, **Azure AI Search**, Databricks, Synapse, Data Factory, Event Hubs, AKS (Kubernetes), Azure DevOps, Monitor, **Azure Form Recognizer, Azure Vision Studio, Application Insights**

## MLOps & ML Lifecycle Tools:

MLflow, Kubeflow, Apache Airflow (MWAA), Prefect, Model Registry (SageMaker, Azure ML), Real-time & Batch deployment (SageMaker endpoints, Azure ML endpoints, AKS, EKS), CI/CD for ML (Azure DevOps, Jenkins, **GitHub Actions**), **Evidently AI / WhyLabs (drift monitoring)**

## Data Engineering & Databases:

Snowflake, Delta Lake (on Databricks), MySQL, PostgreSQL, MongoDB, Cosmos DB, Redshift, **BigQuery**, Vector Databases (FAISS, Pinecone, Qdrant, **ChromaDB**), **Databricks Unity Catalog**

## Streaming & Real-time Analytics:

Kafka (MSK), Spark Streaming, Flink, **Kinesis Data Streams/Firehose**, Event Hubs

## DevOps & Containerization:

Docker, Kubernetes (EKS, AKS, **GKE**), **Helm**, Terraform, **AWS CDK / CloudFormation**, Git, Jenkins, **ArgoCD**

## Visualization & Productivity Tools:

Jupyter, Tableau, Power BI, VS Code, Microsoft Excel, **Grafana**

## AI Governance & Compliance:

**Ethical AI Frameworks, Model Interpretability, Fairness & Bias Auditing** (SageMaker Clarify, Fairlearn), **Responsible AI practices**, Data Privacy (GDPR, CCPA), Model & Data Versioning (DVC)

# EXPERIENCE

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## Evalueserve

### SENIOR Data Scientist

*10/2023 – 05/2025*

#### PROJECT 1: Proactive Customer Engagement System for Ally Bank

Developed and deployed a machine learning-based system to predict which insurance customers were likely to call regarding their policies, enabling proactive engagement by representatives before customer-initiated contact. The system improved customer satisfaction and operational efficiency.

#### TASKS PERFORMED:

- Data Analysis and Pattern Identification:
- Deployed real-time ML pipeline using Azure ML and Azure

DevOps for live prediction of customer call intent.

- Implemented MLflow for experiment tracking, model versioning, and model registry integration.
- Integrated interpretability tools (e.g., SHAP) for explaining predictions to business stakeholders.
- Designed a retraining pipeline orchestrated via Apache Airflow and deployed via Azure Kubernetes Service.
- Ensured compliance and ethical AI standards for customer fairness and transparency.

Environment: Azure ML, MLflow, Airflow, SHAP, Azure DevOps, Python, Snowflake

## PROJECT 2: GenAI-Powered Query Resolution System for IT Helpdesk

Developed and deployed a GenAI-based solution to streamline IT helpdesk operations by automatically resolving user queries through a vector database (FAISS) and efficient similarity search, reducing the workload on IT personnel.

## TASKS PERFORMED:

- Implemented GenAI-based solution using FAISS and LLMs on Vertex AI (GCP) for scalable deployment.
- Used Kubeflow Pipelines on GCP for modular training and deployment flow.
- Leveraged Azure Cognitive Services for fallback NLU tasks and language detection.
- Established continuous model feedback loop via MLflow model registry and fine-tuning on live data.
- Deployed with a focus on ethical AI (bias testing, audit logs).
- Environment: Vertex AI, Kubeflow, Azure Cognitive Services, Python, TensorFlow, LangChain

## *PROJECT: BankBot - AI-Powered Chatbot for Bank Policies*

- Develop and deploy an advanced chatbot designed to address user queries related to bank policies embedded in unstructured PDF documents using state-of-the-art techniques such as Gen AI, vector database integration, NLP, and Llm.

## TASKS PERFORMED:

- Data Acquisition and Preprocessing:
- Implement text extraction from unstructured PDFs,
- Generate vector embeddings.
- Vector Database Integration: Integrate a robust vector database (e.g. Qdrant, Pinecone) to efficiently store and retrieve vector embeddings.
- Query Processing and Answer Generation
- Develop algorithms for accurate user query processing.
- Utilize Gen AI Llm for advanced natural language understanding.
- User Interface Design
- Design feedback loop

## **Capgemini Technology Services India Limited**

### **SENIOR CONSULTANT**

*07/2021 – 10/2023*

CLIENT: RSA, UK Based Client

Project 1:- Severity Prediction and Cost Estimation for Commercial Building Claims.

The goal of this project is to develop a system for predicting the severity of commercial building claims and estimating their costs. By analyzing the relevant data, the system will be able to identify key features and text features that indicate the severity of the claim, allowing for accurate predictions of the associated costs.

#### TASKS PERFORMED:

- Developed ML models using Azure ML pipelines for claim severity classification.
- Incorporated SHAP and LIME for model interpretability and audit compliance.
- Registered and tracked models via MLflow, integrated with Azure Blob for artifact storage.
- Triggered model retraining using Airflow DAGs with monitoring via dashboards.

Environment: Azure ML, SHAP, MLflow, Airflow, Python, Excel, Azure DevOps

#### Project 2:- Automated System for Claim Amount Prediction and Determination of Repairability in Accidents

The project involves developing an automated system for predicting the claim amount and determining whether a vehicle is repairable or considered a total loss after an accident. The objective is to improve the operational efficiency and deliver accurate indemnity to policyholders, while also reducing the chances of claims leakage and enhancing the claims processing system.

#### TASKS PERFORMED:

- Data collection and preprocessing: Collecting and cleaning data related to automobile insurance claims, including claim amount, vehicle details, accident information, repair costs, and total loss information.
- Feature engineering: Identifying and selecting relevant features from the collected data to improve the accuracy of the prediction model.
- Model selection and development.
- Model validation and testing.

ENVIRONMENT: Visual Code, Git, Azure DevOps, Python, Excel

#### Project 3:-Develop an automated system for automobile damage inspection using computer vision techniques to improve the efficiency of the claims processing system

- The current manual visual inspection process for automobile insurance claims can be time-consuming and lead to claims leakage. The proposed system will use computer vision

algorithms to identify and analyze the damage extent and parts that need to be repaired or replaced. This will result in a faster and more accurate claims processing system with reduced human error.

#### **TASKS PERFORMED:**

- Deployed real-time CV model on Azure Kubernetes Service using Azure ML managed endpoints.
- Followed Responsible AI checklist for image fairness, accuracy, and safety.
- Built automated inspection report with explainable object detection overlays.
- Registered models and tracked performance metrics via MLflow.
- Environment: Azure ML, MLflow, Python, TensorFlow, OpenCV

## **WCITIES INDIA PVT LTD**

### **DATA SCIENTIST**

*02/2019 – 07/2021*

#### **PROJECTS:**

- This project aims to develop an automated system to extract and predict events from unstructured web pages, in order to increase traffic to event organizer websites.
- The project involves creating an event extractor that can identify the key fields of a public event, including the title, date/time information, and location information, from unstructured web pages across the internet. A web page classifier is also developed that predicts if a given web page contains any event information. The system uses customer databases to provide the nearest events based on the customer's location. The goal is to improve traffic to event organizer websites by providing accurate and relevant event information to customers in their vicinity. The proposed system can be integrated with existing event aggregator platforms to enhance the overall user experience and boost the marketing strategy of event organizers.
- **TASKS PERFORMED:**
- Developing an event extractor to identify key fields of a public event, such as title, date/time, and location information, from unstructured web pages across the internet
- Creating a webpage classifier to predict if a given webpage contains any event information.
- Using customer databases to provide the nearest events based on the customer's location.

- Integrating the proposed system with existing event aggregator platforms to enhance the overall user experience and boost the marketing strategy of event organizers.

project 2:-Sentiment Analysis and Summarization of Public Reviews for Improved Marketing Strategy

- The project involves performing sentiment analysis and summarization of public reviews and descriptions to help clients improve their marketing strategy. The aim is to identify negative feedback and provide a summarized description of the issues that need to be addressed.
- TASKS PERFORMED:
- Conducting sentiment analysis of public reviews.
- Summarizing negative feedback points from the reviews.
- Providing recommendations to clients for improving their marketing strategy based on the negative feedback.
- ENVIRONMENT: Visual Studio, Azure DevOps, Python

## **EDUCATION**

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### **PUNE UNIVERSITY**

**computer science**

*2013 – 2017*

GRADE - FIRST CLASS WITH DISTINCTION

### **SNS COLLEGE HAJIPUR, BIHAR**

*2012 – 2013*

GRADE - FIRST CLASS WITH DISTINCTION

### **DAV PUBIC SCHOOL, CBSC, BIHAR**

*2010 – 2011*

GRADE - FIRST CLASS WITH DISTINCTION