AKASH CHAVAN

AI-ML ENGINEER

CONTACT

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Mumbai ,Maharastra.

SKILLS

Machine Learning and AI:

- Generative AI & LLMs: GPT-4, Claude, RAG (Retrieval-Augmented Generation), Prompt Engineering, LangChain, LangGraph, Agentic AI, Hugging Face, Fine-tuning
- Computer Vision: Comfy UI workflow , YOLO, Stable Diffusion, ControlNet, OpenCV, PIL
- Natural Language Processing: NLTK, TF-IDF, Word2Vec, Bag of Words, Transformers, Sentence-Transformers
- Deep Learning: Artificial Neural Networks (ANN), Convolutional Neural Networks (CNN), Transfer Learning, TensorFlow 2.x, Keras, PyTorch
- Classical ML: Linear Regression,Ensemble Methods, K-Nearest Neighbors (KNN), Support Vector Machines (SVM), Decision Trees.

AWS Cloud & Infrastructure

- Compute & Serverless: AWS Lambda, EC2, ECS
- AI/ML Services: AWS Bedrock, SageMaker, Amazon Textract, Amazon Polly
- Storage: Amazon S3
- Data Engineering & Databases: AWS Glue, DynamoDB, Amazon Redshift
- Infrastructure as Code (IaC): AWS CloudFormation, AWS SAM (Serverless Application Model)
- Security & Management: AWS Secrets Manager, IAM

Development Tools & Frameworks

- Programming Languages: Python, SQL
- Data Science Libraries: NumPy, Pandas, SciPy, Scikit-learn, Matplotlib, Seaborn
- Web Development: Flask, Django, Django REST Framework, Streamlit
- DevOps & Version Control: Docker, Git, GitHub
- API Development & Testing: Postman, REST APIs, SSO Integration
- Database Management: MySQL, DynamoDB, Amazon Redshift, SQL

EDUCATION

B.E | Shivaji University, Kolhapur | 2017 | 67.75%

DIPLOMA | MSBTE | 2014 | 77.49%

HSC | Maharashtra State Board, Pune | 2012 | 79 %

SSC | Maharashtra State Board, Pune | 2010 | 74.91 %

PROFILE

Enthusiastic Data Scientist with over 6+ years of experience working on multiple data science, data analysis, machine learning, scraping, and image processing projects. Possesses extensive analytical and critical thinking skills. Proactive individual keen to learn new things.

WORK EXPERIENCE

AI Consultant

Plan.net Technest India, Mumbai - Client Company
Decision Culture , Pune - Payroll Company
March-2025 - Present

- Architected and deployed serverless AI solutions on AWS, leveraging Lambda, Bedrock, and SAM for scalable chatbot infrastructure supporting Adobe CIM team operations
- Designed and implemented RAG-based conversational AI systems with AWS Bedrock LLMs, integrating DynamoDB for state management and S3 for document storage
- Built production-grade automation pipelines using AWS Glue and Textract for intelligent document processing, reducing manual effort by 70%
- Developed interactive ML applications using Streamlit with enterprise SSO integration, ensuring secure access for 500+ users
- Engineered data warehousing solutions with AWS Redshift for analytics and AWS Polly for text-to-speech capabilities
- Implemented Infrastructure as Code (IaC) practices using CloudFormation and AWS SAM, accelerating deployment cycles by 50%
- Managed end-to-end ML lifecycle from data extraction to model deployment, ensuring compliance with security best practices via AWS Secrets Manager

ML Engineer -II

F (x) Data Labs Pvt. Ltd.
April-2023 - March-2025

- Designed end-to-end machine learning solutions aligned with business objectives.
- Managed data collection, preprocessing, and conducted exploratory analysis for actionable insights.
- Developed and optimized ML models using Python and libraries like TensorFlow, PyTorch, and scikit-learn.
- Constructed optimized data pipelines to feed machine learning models.
- Ensured algorithms generated accurate user recommendations.
- Documented workflows, mentored team members, and contributed to research initiatives while adhering to ethical standards.
- Shared results with team members and others involved, encouraging teamwork, new ideas, and learning together.

ML Project Engineer

Universal Softech Hub , New Delhi. - Payroll Company
Veritas , Pune - Client Company
Sept-2019 - April-2023

- Experience implementing project life-cycle management processes to ensure project requirements are documented and tracked throughout development.
- Proven ability to identify and resolve project issues in a timely manner to ensure successful project delivery.
- Familiarity with version control systems such as Git.
- Knowledge of machine learning algorithms and their applications in data science projects.
- Experience with common data science toolkits, including Anaconda, NumPy, Matplotlib, Pandas, Seaborn, scikit-learn, and NLTK.
- Proficiency in major Python libraries such as NumPy, Pandas, and Regex.
- Ability to write clean, optimized, and maintainable code using object-oriented programming principles.
- Solid understanding of MySQL and other relational databases.
- Advanced scripting and programming skills in Python and other relevant languages.

PROJECT

AI-Driven Campaign Intelligence System

Developed an AI-powered marketing analytics platform that transforms complex campaign data into actionable insights through natural language querying. Built an intelligent agent capable of processing and analyzing multi-channel marketing performance data, enabling users to query campaign metrics, ROI analysis, and regional performance through conversational interfaces. Implemented data aggregation and visualization features to deliver real-time insights, replacing manual spreadsheet analysis with automated intelligence reporting for marketing optimization and strategic decision-making.

Technologies: AWS Lambda, AWS Bedrock, AWS Glue, AWS Redshift, Amazon Polly, Python, LLM, Data pipelines, Visualization

AI Image Generation System

Developed and deployed a scalable backend system for personalized AI-driven image generation. Implemented automated ComfyUI workflows to streamline image processing pipelines. Deployed the application on AWS EC2 with round-robin load balancing to ensure high availability and efficient request distribution during UAT testing, achieving improved system scalability and reliability.

Technologies: Python, ComfyUI, AWS EC2, Load Balancing, Docker, Image Processing

AI Tour Guide

The project focuses on developing an innovative GPS navigation app utilizing advanced technologies such as voice synthesis and large language models. As a Machine Learning Engineer, my responsibilities include designing and implementing algorithms for voice synthesis and language processing, ensuring immersive and personalized experiences for users. Additionally, I contribute to the integration of features like voice cloning and community contributions to enhance user engagement and satisfaction.

Technologies: Python, LLM, Django, Django Rest, React Native, AWS.

AI Lawyer

Developed an intelligent legal assistant to help clients in case evaluation and provide advice through analysis of historical case outcomes. Created a comprehensive legal database encompassing diverse case types to support the assistant's functionality. Implemented Optical Character Recognition (OCR) technology to enhance data collection, enabling the extraction of text from image-based PDFs sourced from websites. This additional step significantly expanded the database, allowing the assistant to offer more accurate and personalized legal advice to users.

Technologies: Python, LLM, Django, Django Rest, AWS ECR.

RAG implementation for Articles

Leading this project as both Team Lead and ML Engineer, I built a cutting-edge Retrieval-Augmented Generation (RAG) system, showcasing my deep expertise in Large Language Models. I architected a solution using GPT-4 for generating variants for efficient retrieval, demonstrating my hands-on experience with state-of-the-art language models. My implementation of sparse-dense hybrid search and semantic similarity using Sentence-transformers for improved document retrieval highlights my proficiency in applying Transformers for information retrieval tasks. Furthermore, by designing prompt templates to guide GPT-4 in generating coherent, factual responses, I displayed my skills in prompt engineering and my ability to enhance LLM performance with external knowledge.

Technologies: OpenAI , Langchain , LLM , Mysql , Django, AWS -EC2 , AWS-S3

AI Headshot-Pro

Our project involved the development of an AI system that allowed users to upload various photos of themselves. The primary objective was to generate professional and formal photos for the users. To achieve this, we employed Stable Diffusion models, supplemented with Controlnet for open-pose conditioning. This innovative combination of technologies enabled us to create high-quality, polished, and user-specific professional photos, enhancing the overall user experience and meeting their formal photography needs effectively.

Technologies: Stable Diffusion Inpaint Models, ControlNet (open-pose model), OpenCV, PIL, AWS, Docker, PyTorch, HuggingFace.

LANGUAGES

English

Hindi

Marathi

DECLARATION

I do hereby declare that the above information furnished by me is correct to the best of my knowledge.

SINCERELY,

AKASH CHAVAN