

Vishal Vasoya

Senior Data Scientist

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SUMMARY

Senior Data Scientist with over 4 years of experience in developing and deploying advanced machine learning models and data extraction systems. Demonstrated expertise in building deep learning models, fine-tuning language models, and creating scalable APIs. Proficient in Python, SQL, TensorFlow, and various ML frameworks, with a strong background in data visualization and analysis. Proven ability to deliver high-precision solutions that enhance operational efficiency and user engagement. Adept at working in fast-paced environments and collaborating with diverse teams to achieve project goals.

EXPERIENCE

BitCoding Solutions - Gujarat, India Feb 2022 – Present

Senior Data Scientist

- Developed AI-driven chatbots using Rasa and LLM, integrated with WhatsApp, Telegram, and web channels, enhancing customer engagement and service delivery.
- Designed an insurance-focused chatbot with advanced scenario handling capabilities across multiple platforms.
- Engineered a live chat API system using Kafka for real-time support, facilitating seamless interaction and parallel request handling.
- Engineered and fine-tuned LLM models for precise generation of content, including vegan food recipes and other specialized applications.
- Implemented RAG architecture for enhanced FAQ response accuracy and CRAG for effective generation and validation of responses.
- Dockerized models for seamless deployment in containerized environments on Amazon ECS and EC2 instances, leveraging AWS Cloud infrastructure.
- Extensive experience with OpenAI API and open-source LLM models.
- Developed a car damage detection model with 85% recall using Detectron2, ensuring high accuracy in identifying damages.

Actyv.ai – Bengaluru, India Jan 2020 – Jan 2022

Associate Data Scientist

- Developed a deep learning-based ensemble document classification model that reduced manual intervention by 80% and achieved 85% precision on test data.
- Optimized the model using advanced techniques such as data preprocessing, pre-trained models, and model tuning.
- Delivered a scalable API endpoint for the model, passing through various testing stages.
- Dockerized the model for seamless deployment in a container on Amazon ECS.
- Worked efficiently in a fast-paced startup environment, meeting tight deadlines.
- Reduced SQL query time by integrating Elastic Search with Spring Boot for lightning-fast search and indexing.
- Connected database events directly with Elastic Search using Kafka to achieve real-time updates in Elastic Search, significantly reducing failure rates to near 0%.

EDUCATION

Dhirubhai Ambani Institute of Information and Communication Technology(DAIICT)

M.Sc.(Data Science) – Masters in Data Science

Veer Narmad South Gujarat University(VNSGU)

Bachelor of Computer Applications – Computer Applications Association

SKILLS

Programming Languages : Python, JAVA, PHP

Machine Learning : NumPy, Pandas, Matplotlib, Data Visualization, Data Analysis, Scikit-Learn, Statistics,Supervised Learning, Unsupervised Learning, MLOps, Data Preprocessing, Feature Engineering, Hyperparameter Tuning, Model Evaluation

Deep Learning : TensorFlow, Computer Vision, GAN, NLP, OpenCV, Image Processing, LSTM, Transfer Learning, LLM, OpenAI, RAG, LLM Fine tuning

Chatbot : Rasa, open source LLM models, LangChain, LlamaIndex, OpenAI, RAG, LLM

Databases : PostgreSQL, MySQL, MongoDB,

API Development : FastAPI, Flask, Webhooks, Alembic, Pydantic

DevOps : Git, GitHub, GitLab, BitBucket, Docker, AWS, Kibana

Messaging Systems : Kafka, RabbitMQ

Programming Concepts : OOP, Data Structures, Threading, Asynchronous Programming

Others : Jira, Asana, Trello, ClickUp, GCP, Web Scraping, Snowflake, Elasticsearch, Spring boot, DBMS, RDBMS, Unit Testing, Typing

Soft Skills : Leadership, Time Management, Collaboration, Public Speaking, Teamwork

LANGUAGES

- English
- Hindi
- Gujarati

CERTIFICATIONS

Machine Learning Using SAS Viya

[Credential Link](#)

SAS Programming Certification Fast Track

[Credential Link](#)

PROJECTS

AI Mentor -

Python, FastAPI, AWS, GitLab, SQL, ML, NLP, LLM, OpenAI GPT3.5

- Utilizes advanced LLM Model for dynamic content generation to ensure comprehensive understanding of complex concepts.
- Custom chatbots, fine-tuned with subject-specific data, act as expert mentors, promptly addressing student queries.
- Incorporates real-world examples to simplify student queries and enhance learning outcomes.
- Backend integration with FastAPI facilitates seamless data flow and management of chatbot interactions, enabling customized responses and exam scheduling.
- Leverages AWS infrastructure for scalability and reliability, ensuring uninterrupted access to the AI Mentor platform for users.

Vendor Product Data Management System -

Python, FastAPI, AWS, GitLab, Textract, SQL, ML, NLP, LLM, FastAPI

- ML-driven data extraction ensures precise extraction from diverse vendor catalogs,enhancing efficiency and accuracy in product data management.
- Multi-layered PDF preprocessing models facilitate seamless conversion of unstructured PDF data into a structured format, improving accessibility and usability.
- NLP techniques and ensemble ML models optimize data extraction by identifying productrelated tags from both structured and unstructured documents.
- Seamless workflow orchestration covers dynamic catalog handling, data extraction, and storage, ensuring real-time database accuracy and efficient price management.
- Robust backend powered by FastAPI integrates ML-driven functionalities for enhanced data processing and validation, facilitating smooth communication with the frontend.

Insurance Support Chatbot -

Rasa, OpenAI, Python, NLP, ML, Kafka, FastAPI, AWS

- Created a chatbot using Rasa and OpenAI LLM to handle vehicle policy purchases, renewals, claims, and policy downloads, integrating location-based services.
- Utilized Kafka and FastAPI for end-to-end live chat support, ensuring seamless user interaction and robust real-time communication.
- Deployed the chatbot across multiple platforms including WhatsApp, Telegram, Messenger, and web channels, enhancing accessibility for users.
- Managed end-to-end implementation and deployment on AWS EC2, providing real-time support and increasing user policy purchase flow by 20%.
- Conducted thorough end-to-end testing and optimization to ensure high performance and reliability across all supported channels and services.

Recreating the Masterpiece Through Cycle GANs -

CNN, Deep Learning, Tensorflow, Python, CycleGAN, Docker, GCP Deployment, Generative AI, FastAPI

- Developed a CycleGAN model to generate monet-style paintings from photos.
- Trained the model and improved performance through visualization and analysis of its results.
- Utilized FastAPI and Flask to create a webpage for the model, making it user-friendly and accessible.
- Deployed the model using Docker containers and GCP, creating an API endpoint for easy access.
- Demonstrated deep learning, computer vision, cloud deployment, and web development expertise while leveraging modern technologies such as GAN, TensorFlow, and FastAPI.