Sanskar Gawande

***Machine Learning Engineer***

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# PROFESSIONAL SUMMARY

A Machine Learning Engineer with 3.6 years of experience in developing and delivering AI-driven solutions. Skilled in cutting-edge AI technologies, including Generative AI (advanced model design and implementation), Natural Language Processing (NLP), and deep learning, I have built scalable systems for diverse real-world applications. Expertise includes developing intelligent chatbots, predictive models, and AI pipelines using frameworks like LangChain, GPT-4, and PyTorch. Proficient in backend tools such as Flask and FastAPI, with hands-on experience deploying solutions on AWS and Azure, I am committed to delivering impactful, results- oriented AI systems.

# AREAS OF EXPERTISE

* **Languages & Frameworks**: Python, SQL, LangChain, HuggingFace Transformers (GPT-4, BERT, Llama), Flask, FastAPI.
* **Generative AI & NLP**: Retrieval-Augmented Generation (RAG) pipelines, LangChain, LlamaIndex, Transformer models, python-telegram-bot.
* **Machine Learning & Deep Learning**: PyTorch, TensorFlow, Scikit-learn, YOLO, ResNet.
* **Cloud Platforms**: AWS (S3, EC2, Lambda, SageMaker, Bedrock), Azure ML.
* **MLOps & DevOps**: MLflow, Docker, Airflow, CI/CD Pipelines, Kubernetes.
* **Database Management**: PostgreSQL, MongoDB, Redis.
* **Monitoring & Observability:** Prometheus, Grafana.
* **Version Control:** Git, GitHub.
* **Backend Development**: REST APIs, Microservices Architecture.

# WORK EXPERIENCE

***Edgerock Software Solutions Pvt. Ltd.* Machine Learning Engineer| May 2021 – Dec 2024**

* Developed and deployed Generative AI chatbots using LangChain and Hugging Face Transformers, automating document extraction workflows for healthcare professionals.
* Designed and implemented a Retrieval-Augmented Generation (RAG) pipeline with vector databases like Pinecone and Qdrant, enhancing query efficiency and accuracy.
* Built a code generation pipeline leveraging GPT-4 and Hugging Face models, simplifying development workflows and boosting productivity.
* Optimized real-time object detection systems using YOLO and ResNet, improving detection accuracy and processing speed.
* Created predictive models for revenue forecasting, leveraging feature engineering and time-series analysis for informed decision-making.
* Deployed scalable NLP models on AWS Bedrock and SageMaker, gaining hands-on expertise in cloud-based AI deployment.
* Enhanced backend efficiency by integrating ML models with FastAPI and Flask for seamless API interactions.
* Collaborated in Agile sprints, contributing to CI/CD pipelines and supporting continuous development processes.

# RELEVANT PROJECTS

## Revenue Forecasting for Entertainment Services:

Built machine learning models to predict revenue trends for an entertainment provider, utilizing regression and time-series analysis. Enhanced forecasting accuracy, enabling data-driven resource optimization and informed financial decision-making for stakeholders.

## Image Detection & Classification with YOLO and ResNet :

Developed an advanced image detection system using YOLO and ResNet for real-time object detection. Optimized detection accuracy and processing speed, ensuring robust performance for automated security monitoring systems.

## PDF Chatbot for Clinical PDFs:

Created an AI-powered chatbot to extract key data from clinical documents using LangChain and HuggingFace Transformers. Automated data retrieval workflows, significantly reducing manual effort and enhancing efficiency for healthcare professionals.

## AI-driven code generation pipeline:

Designed a modular pipeline for automating repetitive coding tasks using GPT-4. Enhanced code maintainability and streamlined development workflows, reducing time spent on manual tasks.

# PROFESSIONAL DEVELOPMENT

* + Attended workshops on Generative AI and LLMs, focusing on building scalable AI pipelines.
  + Gained expertise in LangChain, RAG, and transformer models like GPT-4 for advanced AI solutions.
  + Completed hands-on training in AWS Bedrock and SageMaker, specializing in NLP model deployment at scale.
  + Expanded knowledge of YOLO and ResNet for advanced computer vision applications.
  + Participated in webinars to stay updated on the latest advancements in Generative AI and machine learning frameworks.

# EDUCATION

* + **Bachelor of Technology in Information Technology Sage University, Indore**

Graduation Year**: 2022**

* + **Higher Secondary Education (12th) ST. Theresa H S School, Dhar** Year**: 2018**

Stream**: Science (PCM)**