

Piyush Vaghela

Data Scientist

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Summary

- Skilled in Data Science with 2 years of hands-on experience in building data-related solutions including machine learning, data analytics, and LLMs (Large Language Models).
- Focusing on Developing customer-centric solutions using ChatGPT APIs and open-source LLMs (Alternative to ChatGPT). Developed and implemented Computer Vision and LLM solutions. Proficient in training and fine-tuning open-source LLMs and Generative Models (i.e. Stable Diffusion).

Work Experience History

Data Scientist

DXFactor Solutions | July 2022 – *currently working

- Worked on real life industry use cases where scale of the problems were more important than a proposed AI algorithms complexity.
- Found more exposures toward solving NLP problems using LLM, satellite image processing problems and medical Data processing.
- Created numerous proof-of-concepts (POCs) using Computer Vision and NLP.

Cognizant | Jan 2022 – jun 2022

- Engage in diverse data analytics projects, gaining practical experience in applying traditional machine learning and statistical methodologies to real-world scenarios.

Education

Bachelor of Engineering, Major in Computer Science

- SCET (GTU) | 2018 - 2022

Certifications

- Applied Data Science with Python, University of Michigan
- Applied Machine Learning in Python, University of Michigan
- Neural Networks and Deep Learning, DeepLearning.AI
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization, DeepLearning.AI

Technical Skills

Computer Vision

- OpenCV
- Object detection (YOLO)
- Image classification
- Image Generation

Natural Language Processing

- Langchain
- NLTK

Deep Learning

- Tensorflow
- Keras
- Pytorch

Data Analytics

- SQL (using SQLAlchemy)
- Matplotlib
- Pandas

Rest-API

- Flask

ML-Deployment

- Docker
- Streamlit

Version Control

- GitHub
- GitLab

Cloud

- AWS EC2
- AWS ECR

Awards

- **Team excellence award**
- **innovation award**

Projects

LLM Powered Chatbot

- **Industry:** Fitness
- **Model:** OpenAI gpt-3.5-turbo
- **Application:** Customer service chatbot for assisting users in buying new memberships, canceling memberships, creating workout plans, natural language-based video search, and more
- **Features:** Intent classification, entity extraction, human-like custom responses

Car Show Agent

- **Industry:** Automobile
- **Model:** OpenAI gpt-4-turbo
- **Application:** Automotive showroom Agent with expertise in managing user queries related to vehicle purchase, sales, and leasing. Proficient in orchestrating appointment bookings for users, thereby effectively generating leads for the showroom.
- **Features:** Intent-entity model, human-like, human in a loop reinforcement learning, FAQ and Doc ingestion.

Medical Report Analysis

- **Domain:** Pregnancy Ultrasound Report Analysis
- **Objective:** Find abnormalities from the report and give suggestion to the doctor from medical guidelines.
- **Model:** OpenAI gpt-3.5-turbo
- **Output:** List of Abnormalities from the Report and relevant personalised suggestion to the patient.

Generative Dashboard

- **Industry:** Fitness
- **Model:** OpenAI gpt-3.5-turbo
- **Application:** Business owners can generate graphs, tables, and KPIs in response to natural language queries

Sea Cages Detection

- **Domain:** Marine Research
- **Objective:** Detect sea cages from aerial images for the Virginia Institute of Marine Science (VIMS)
- **Model:** YOLO-v5
- **Output:** Exact coordinates of cages and export file for visualization in QGIS software