ABHI KAVATHIYA

AI/ML Engineer
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PROFESSIONAL EXPERIENCE

NEXGITS PRIVATE LIMITED **AHMEDABAD GUJARAT, INDIA**
AI-ML ENGINEER **JUN-2022-Present**

- 1.5 years of software development experience that include approx. More than 1 year of experience in Generative AI(GenAI) and Large Language Models (LLMs).
- Implementation of Azure-OpenAI especially ChatGPT Models like GPT 3.5 Turbo, GPT 4.0, Ada Model-002, DaVinci Model.
- Experience in Bulk Data Handling from Excel, PDFs, Websites into Vector Databases.
- Experience developing Custom UI with HTML, CSS and JavaScript.
- GenAI Integration experience with other applications like Azure.
- Ability to meet deadlines and handle pressure in coordinating multiple tasks in a work/project environment. Versatile team player with excellent analytical, presentations, and interpersonal skills.

Project Experience

- Personalized Chatbot Using OpenAI RAG model.
  - Successfully gathered data from the company's website, ensuring the collection of relevant and up-to-date information.
  - Meticulously organized the acquired data, structuring it for efficient training of the chatbot.
  - Developed a semantic matching system to transform user queries into vectorized format.
  - Implemented a similarity algorithm to compare user questions with the pre-trained dataset, ensuring accurate responses.
  - Significantly enhanced the chatbot's conversational capabilities, leading to improved user satisfaction and engagement.
  - Achieved seamless integration of OpenAI's technology to provide personalized responses, setting a new standard for chatbot interactions.
- Call Center Analytics
  - Call Transcription: Utilized Azure Cognitive Services' Speech-to-Text API to convert audio recordings of customer calls into text format for analysis.
  - Sentiment Analysis: Employed Azure Cognitive Services' Text Analytics API to analyze the transcribed call text and determine customer sentiment.
  - Analytics on Sentiment: Leveraged sentiment analysis results to gain valuable insights into the customer's experience with the call center.
  - Entity Recognition: Developed a custom model for entity recognition, identifying specific entities like people, places, organizations, products, or dates within the text data.
  - Intent Recognition: Implemented a custom model for intent recognition, categorizing customer text into underlying intents such as information requests, complaints, or sales inquiries.
  - NPS Rating Extraction: Utilized text analysis techniques, including sentiment analysis and keyword extraction, to extract Net Promoter Scores (NPS) from customer feedback, categorizing responses into Promoters, Passives, and Detractors.
  - Topic Modeling: Employed custom models to perform topic modeling, identifying and categorizing the main themes and topics discussed in the corpus of text data.
- Wine Label Detection and Classification
  - Data Collection: Gathered wine label images from various online sources to create a diverse and extensive dataset.
  - Data Labeling: Employed the labelimg tool to accurately annotate and label the wine label images, ensuring precise training data for model development.
  - Wine Label Detection: Trained a TensorFlow model for wine label detection, enabling the system to recognize and locate wine labels in images.
  - Real-time Detection: Utilized OpenCV to implement real-time wine label detection, allowing the system to identify labels from uploaded images or via webcam, enhancing user experience and practicality.
  - Wine Label Classification: Leveraged Azure Custom Vision Service to categorize wine labels. Collected multiple images of the same wine label from various angles, expertly labeled them, and trained the Azure model to achieve robust classification capabilities.

- Microsoft Teams Call Analysis
  - Microsoft Graph API Integration: Leveraged Microsoft Graph API to extract Microsoft Teams call recordings seamlessly, ensuring access to relevant data for analysis.
  - AWS Transcribe Integration: Utilized AWS Transcribe service for accurate transcription of call recordings, enabling efficient conversion of audio to text format.
  - AWS Textract Integration: Incorporated AWS Textract service for text extraction from PDF files uploaded by users, streamlining the data input process. The extracted text was then fed into a custom Spacy model for further training and analysis.
  - Custom Named Entity Recognition (NER) Model: Developed and trained a custom NER model to identify specific entities or related keywords from the transcribed text, facilitating deeper analysis and insights.
  - Daily Automation with Django Crontab: Implemented automated processes using Django Crontab to run the entity recognition model daily, ensuring timely extraction and display of relevant words or entities from given text.
  - User Interface (UI) Development: Designed and developed a user-friendly interface using the Django framework, enabling users to interact with the extracted words or entities conveniently.
- Voice Bot Development
  - Azure Speech to Text Integration: Utilized Azure Speech to Text service to transcribe user voice input into text for further processing.
  - Response Flow Implementation: Developed a customized flow to retrieve and process user queries, ensuring efficient response generation.
  - Azure Text to Speech Integration: Integrated Azure Text to Speech model to convert response text into audible speech, enhancing user interaction and experience.
- Thai Law Expert GPT
  - Data Collection: Curated data from Thai law websites to compile a comprehensive dataset covering various legal topics and concepts.
  - Data Organization: Structured and organized the collected data to facilitate effective training of the chatbot model.
  - OpenAI Embedding Model: Utilized OpenAI Embedding Model to convert the organized data into vectorized format, enabling efficient processing and analysis.
  - Semantic Matching: Implemented a semantic matching system to convert user queries into vectorized format and determine similarity between user questions and the pre-trained dataset.
  - Response Generation: Selected the top most similar responses and fed them into the OpenAI ChatGPT model to generate accurate and informative responses.
  - User Interaction: Enabled users to ask any query related to Thai law, allowing the GPT expert to provide accurate answers based on the trained model.

EDUCATION

Gandhinagar Institute of Technologies **Ahmedabad, Gujarat**
Bachelors in Information Technology ***2018-2022***

SKILLS

- Technical Skills: Python, JavaScript, HTML, CSS
- Framework & Libraries: Django, Flask, Keras, TensorFlow, Scikit-Learn, NumPy, Pandas, Matplotlib, Langchain, Selenium, Beautifulsoup4, NLTK, spacy, Pytorch
- Tools: PyCharm, Visual studio, Spyder, Jupiter notebook, Google Colab