Pavan Kalyan

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SUMMARY

Experienced AI/ML Engineer with 3 years of experience developing algorithms, solutions, and systems for a wide range of business applications. Skilled in applying NLP techniques to extract insights from text data. Hands-on experience in utilizing ML, DL, and data mining techniques to build applications. Proven ability to design and optimize large-scale ML models. Developed Deep learning-based solutions for object detection and classification using deep learning frameworks like Keras and TensorFlow and scalable ML models deployed as API's

EXPERIENCE

AI/ML Engineer

RecoSense Infosolutions **January 2022 - November 2023, Bengaluru, India**

- Expertise in creating Robust Solutions to solve challenging problems in the domain of NLP, and computer vision and serve them as microservices.
- Proficient in Fine-tuning models that help to better performance and desired results.
- Experience in Anomaly Detection and Bug Fix recommendations Models.
- Experience in Fine-tuning Large Language Models.

Software Engineer

Data Template **March 2020 - January 2022, Bengaluru, India**

- Experience in closely working with clients to establish specifications and system designs.
- Implemented and evaluated artificial intelligence and machine learning algorithms and neural networks for diverse industries.
- Prototyped machine learning applications and quickly determined application viability.
- Created customized applications to be used for critical predictions, automated reasoning and decisions, and calculated optimization algorithms.
- Researched, designed, and implemented machine learning applications to solve business problems affecting many users.

PROJECTS

Suspicious Activity Recognition

- Created a RAG-based report generation system using both closed and open-source LLMs.
- Created new cases related to money laundering and tested the responses.
- Generalized the prompt to handle all scenarios and cases.
- Evaluated a few open-source models for the generation of summaries and recommendations.

Querysense

- Integrated a high-speed vector database for storing processed document data, optimizing retrieval and search functionalities.
- Implemented a Language Model (LLM) to facilitate natural language question-answering, enhancing user interaction with the processed documents.
- Developed a robust system capable of seamlessly adapting to various domains and document types, expanding its usability.

Entity Extraction

- Implemented NER techniques to accurately extract important information such as Name, Address, Account Number, and IFSC code from unstructured bank statement data.
- Utilized Spacy and pre-trained models as a starting point, and further fine-tuned the Spacy3 model to improve the accuracy and precision of extracting entities specific to bank statements.
- Played a pivotal role in enhancing data analysis and processing workflows by developing and implementing an efficient entity extraction solution for bank statement data, thereby streamlining further data processing and analysis tasks.
- Collaborated with the team to ensure successful integration and deployment of the model.

Speech to Text

- Collected language-specific audio data for fine-tuning the pre-trained ASR models.
- Evaluated various pre-trained models such as Deep speech, wav2vec, and whisper for performing automatic speech recognition.
- Employed BERTopic for topic modeling on meeting transcripts. Leveraged BERT's powerful language understanding capabilities to generate relevant topics from the transcripts.
- Integrated T5, a state-of-the-art language model, to summarize the generated topics into concise meeting minutes. Leveraged T5's text generation capabilities to produce accurate and informative summaries.
- Deployed fine-tuned model to the production as a microservice.

Java Code Fix

- Collected and preprocessed Java code from open-source repositories with particular commit messages.
- Fine-tuned Java BERT model for the classification of code as bug or no bug.
- Fine-tuned Code BERT and PLBART models to predict the recommendation fix for buggy code.
- Deployed the solutions as REST service.

Health Care Action Recommendations

- Explored various pre-trained models that would be capable of understanding medical terminology.
- Evaluated the recommendations of actions using the Openai API.
- Finetuned the pre-trained model with the custom data that recommends the actions based on the user input.

Recipe Recommendation

- Collected and preprocessed recipe data from various websites.
- Utilized the NLTK library to perform essential text preprocessing tasks, such as stemming, tokenization, and removing stop words. These techniques helped in standardizing the text data and reducing noise, ultimately improving the accuracy and effectiveness of subsequent analysis and modeling tasks.
- Built a Machine Learning Model that recommends top recipes based on the ingredients from the user.
- Deployed it as the Rest service i.e. used by the application.

EDUCATION

B.E , Computer Science

Panimalar Engineering College • Chennai • 2019 • 7

CERTIFICATIONS

Introduction to Programming Using Python

Udemy

Fine Tune BERT for Text Classification with TensorFlow

Coursera • 2022

Data Science Certification
6Benches.in • 2020

COURSEWORK

Machine Learning
6Benches • 2020

SKILLS

Python, Machine Learning, Deep Learning, Data Science, Natural Language Processing (NLP), NLTK, SpaCy, Tensor Flow, OpenCV, Computer Vision, MongoDB, LLM, Azure.