

Pooja Kameswari Appalla

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Data Analysis | Data Mining | Machine Learning | Business Analysis | Business Processes | Requirements Management
SQL | Data Validation | Data Models | Project Management | Business Process Modeling | NLP | Data Science

Machine Learning Engineer / NLP Developer

Summary:

- Highly skilled and detail-oriented Master of Engineering in Computer Science with a keen interest in Machine Learning Engineer, NLP Developer, Data Analyst, Data Engineering and Business Analysis.
- Applied ML engineering expertise to develop and deploy innovative solutions for computer vision and text mining applications.
- Designed and tested robust web applications utilizing Python frameworks, demonstrating proficiency in SQL and data analysis techniques to ensure optimal performance and reliability.

Education:

- Texas Tech University, Lubbock TX:** Masters of Engineering in Computer Science | **GPA: 3.75** **May 2024**
- Jawaharlal Nehru Technological University, India:** Bachelors of Engineering in Information Technology | **GPA: 3.60** **July 2021**

Technical Skills:

- Programming Languages:** Python, Java, C, JavaScript, React Js, HTML5, CSS3, Django REST API, Flask Restful, Selenium, TestCafe
- Version Control:** Git, GitHub | **Project Management:** Jira
- IDEs:** PyCharm, VS Code, Jupyter Notebook | **API Testing:** Postman
- Databases:** Oracle, MySQL, MongoDB | **Operating Systems:** Windows, Linux, Mac
- Data Science and Machine Learning:** NumPy, Pandas, Matplotlib, NLTK, Spacy, Keras, TensorFlow, PyTorch, Gensim, Scikit-learn OpenCV, HuggingFace Transformers
- Interpersonal Skills:** Effective communication, Strong Internet Research, Time Management and Prioritization Abilities, Presentation, Team Player, Leadership, and Negotiation Skills

Work Experience

Graduate Research Assistant | Rawls College of Business, Lubbock, Texas

May 2023- Present

- Applied advanced data preprocessing techniques and text mining methodologies to extract actionable insights from USPTO and Indian art auction data, utilizing tools like BERTopic and Non-Negative Matrix Factorization (NMF).
- Conducted comprehensive sensitivity tests, including coherence scores analysis, to validate and refine extracted topics, thereby providing invaluable insights for strategic decision-making processes.
- Demonstrated proficiency in Python programming and automation using libraries such as requests, BeautifulSoup, and Python-Selenium to ensure accurate and comprehensive data extraction and processing from various online sources.
- Implemented ML models including Linear SVC, Naive Bayes, & transformer-based model BERT for text classification of extracted tweets, with sentiment & empath analysis, visualized using NetworkX graphs, & showcased results in streamlit app coded in Python.

System Engineer | Tata Consultancy Services, India

Aug 2021 – Aug 2022

- Utilized customer data insights to drive procedural enhancements, resulting in a more user-friendly experience for Medicare application.
- Conducted end-to-end component testing, encompassing both UI and API regression, utilizing Test Cafe for robust quality assurance.
- Developed and meticulously executed complex SQL queries to validate Digital Health and Analytics data within SQL databases, ensuring the accuracy, reliability, and integrity of Python modules, which played a critical role in the testing and optimization process.
- Actively participated in cross-functional collaboration to contribute to the development of additional features aligned with User Stories and Use Cases, consistently enhancing application functionality and productivity in agile sprints.

Machine Learning Engineer | Smart Bridge Pvt Ltd, India

June 2020 – August 2020

- Developed and implemented a life expectancy prediction model utilizing SMOTE analysis and the Extra Tree Regressor algorithm.
- Leveraged deep learning techniques, specifically Convolutional Neural Network (CNN) models, for the detection of Deep Fake content.
- Orchestrated the deployment of the Deep Fake detection system using Flask, ensuring seamless integration and accessibility.

Project Experience

- Search in Video Using NLP Project:** Inspired by an MIT research paper, developed a video search system using its methodologies. Utilizes CLIP for encoding frames and search queries to provide matched frames based on user queries using NLP techniques.
- Conversational Chatbot Using LLM:** Developed a conversational chat application leveraging Hugging Face and OpenAI for natural language processing and seamless interactions.
- Deep Fake Detection using CNN in TensorFlow:** Developed and trained a CNN model using TensorFlow to detect deep fake content in videos. Deployed the trained model using Flask for real-time analysis, helping to identify fraudulent frames and improve digital security for multimedia content.