Rajesh Babu Pasupuleti

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EDUCATION

University of Dayton   Dayton, OH
Masters of Computer Science   *Aug. 2022 – May 2024*

SRM Institute of Science and Technology   Tamil Nadu, India
Bachelors of Technology in Computer Science and Engineering   *june. 2018 – May 2022*

TECHNICAL SKILLS

Languages: Python, C, C++, HTML, CSS, Bash Scripting
Data Analysis Libraries: Pandas, NumPy, SciPy, Scikit-learn, TensorFlow, Keras, PyTorch, Matplotlib, Seaborn, Tableau
Machine Learning Algorithms and NLP: Linear Regression, Logistic Regression, Decision Trees, Random Forests, Gradient Boosting Machines, Neural Networks, Support Vector Machines, NLTK, spaCy, Gensim, Transformers (e.g., BERT, GPT)
Cloud Platforms and Deployment: AWS, Azure, GCP, Terraform, Git, GitHub, Docker, Kubernetes, Jenkins, Hadoop, Spark, Hive, Flink
Database Management: MySQL, MongoDB

EXPERIENCE

Developer Intern   Feb 2022 – July 2022
Linux world informatics private limited   *Jaipur, India*

- Utilizes Docker to create container images with Python3 and either Keras or NumPy installed, enabling automated setup of machine learning environments
- Implements a Jenkins pipeline with five jobs for GitHub repo pulling, environment setup, model training, optimization, and retraining/notification, streamlining the entire machine learning workflow.
- Incorporates an additional job for monitoring container health, ensuring continuous operation by automatically restarting containers if failures occur during model training

Developer Intern   Mar 2020 – Aug 2020
Linux world informatics private limited   *Jaipur, India*

- Automated CI/CD Pipeline: This project establishes an end-to-end Continuous Integration and Continuous Deployment pipeline using Jenkins and Kubernetes. It automates the deployment process from code integration to testing and deployment
- Dynamic deployment environment utilizing Kubernetes for container orchestration, selecting language interpreter containers based on GitHub code pushes for efficient and customized deployment.
- Error-handling mechanisms include email notifications for deployment failures, ensuring timely communication and issue resolution, maintaining a reliable deployment process.

PROJECTS

Image Caption using Vision Encoder Decoder Models | *GPT2, Vision Transformers, Hugging Face Libraries*

- Developed an image captioning system combining Vision Transformers (ViT) and GPT-2 models, achieving a 90 improvement in caption accuracy.
- Utilized the Flickr8k dataset with 8,000 images and five captions each, implementing a Vision Encoder Decoder Model. ViT handled image features, and GPT-2 generated coherent captions.
- Evaluated the model using the Rouge2 metric, demonstrating 90% accuracy, paving the way for applications in accessibility services, security, and beyond.

Car Licence Number Plate Detection | *: Python, NumPy, SCIKIT, Pandas, HTML, CSS, OCR, CNN, etc.*

- Develop ALPR system for plate detection, character segmentation, and recognition.
- Employ cascaded classifiers for plate detection, apply segmentation techniques, and utilize CNN with AlexNet for character recognition. Deploy using Flask.
- chieve accurate plate detection, character segmentation, and high recognition accuracy. Integrated web app enables user-friendly plate recognition and owner details retrieval.