Rajesh Babu Pasupuleti

937-580-8681 | prajeshbabu99@gmail.com | Portfolio Linkedin:pasupuleti-rajesh-babu | Github: Pasupuleti-rajesh-babu

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
Cloud Platforms and Deployment: AWS, Azure, GCP, Terraform, Git, GitHub, Docker, Kubernetes, Jenkins
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: The pipeline dynamically selects the appropriate language interpreter container based on the code being pushed to GitHub, ensuring efficient and customized deployment environments. It leverages Kubernetes for container orchestration, enabling scalability and flexibility in managing deployment resources
- Fault Tolerant and Notification System: The pipeline incorporates error handling mechanisms, such as email notifications to developers in case of deployment failures. This ensures timely communication and allows for quick resolution of issues, maintaining a reliable and robust deployment proces

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.