Abhay Kumara Sri Krishna Nandiraju

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Education

University of Arizona — Tucson, Arizona, USA
MS in Information Science: Machine Learning — *2023-2025*

Indian Institute of Technology, Tirupati — Tirupati, Andhra Pradesh, India
BTech in Electrical Engineering — *2019-2023*

Experiences

WML IT SOLUTIONS PRIVATE LIMITED — Associate Consultant 2023-2024
Hyderabad

- Developed a reusable chatbot script that doesn't require configuring packages or modules, suitable for integration in various projects.
- Integrated GPT-3.5 Turbo and SQL coder from Hugging Face to convert natural language into SQL query.
- Enabled users to interact and retrieve answers from both relational and non-relational databases, and CSV files using natural language like English.
- Langchain, Python and Flask were utilized to seamlessly integrate the LLMs into backend.

Indian Institute of Technology, Tirupati — Computer Vision Research Intern 2022
Tirupati

- Applied super-resolution pre-processing techniques such as BSRGAN and bicubic interpolation on the COCO dataset to improve the small object detection when trained using the Faster-RCNN object detector.
- Improved the mean average precision(mAP) of small objects by 8%.

Projects

Efficient Data Augmentation for Tiny Drone Detection System | *Python, Pytorch, Tensorflow* link

- We formulated and developed a method in the data augmentation domain to increase the training dataset size and improve the diversity of the drone dataset.
- The Yolov5 and Yolov8 models trained on the synthetic data created using our method detected new and unseen drones with real-time speeds.

Deep Learning Model for Satellite Image Classification | *Python, Tensorflow* link

- Developed and trained a deep learning model inspired by the ResNet architecture on 5631 satellite images that can classify them into four categories desert, cloudy, water, and green area.
- Formulated a model with an accuracy of 93.87% along with low-inference time.

Spam and Non-Spam Classifier | *Python, scikit-learn* link

- Built a spam and ham message classifier using the Naive-Bayes classifier that performs with an accuracy of 95%.

Achievement

Chanakya Fellowship

- Secured the Chanakya fellowship for drone detection research project that focuses on developing a lightweight deep-learning model for detecting drones with real-time speeds which can be deployed into raspberry-pi 4

JEE Advanced and Mains - 2019

- Secured an All India Rank(AIR) of 3574 among 245,000 students in JEE Advanced and an All India Rank(AIR) of 3722 among 1,147,000 students in JEE Main

Technical Skills

Languages: HTML, CSS, Javascript, Python, C++, SQL
Framework: Flask, Langchain, Pytorch, Scikit-learn, NumPy, Pandas, Beautiful Soup, Selenium
Developer Tools: Git, Github, VS Code, PyCharm, Zed, Postgres, Hugging Face