Mekala Varshith Reddy

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EDUCATION

Institute of Aeronautical Engineering, Hyderabad, India Expected graduation: *May 2026*

B.Tech in Computer Science and Engineering (Artificial Intelligence and Machine Learning) *GPA*: 8.07/10

Sri Chaitanya Junior College, Hyderabad *June 2024*

Intermediate GPA: 9.2/10

Indu High School, Hyderabad *March 2022*

Schooling GPA: 9.0/10

TECHNICAL SKILLS

Programming Languages: Java, Python, Kotlin, Html, CSS, C

Platforms/Tools: scikit-Learn, Jupyterhub, Flask, MySQL, Bootstrap, Canva, Copilot

Interests : Machine Learning, Open-Source, Creative Writing, Neural Networks

RELEVANT EXPERIENCE

Institute of Aeronautical Engineering, Hyderabad, Telangana

Summer Research Internship – (AI TRiSM) *May – 2024*

- In this internship, I applied my machine learning expertise and problem-solving skills within the financial sector to address a critical challenge: data bias. I proposed implementing Bagging techniques, specifically Bagger's Algorithm, to mitigate this issue effectively. Working with the Atlantis Bank dataset, containing 32,561 records, I executed data preprocessing using both Bagging and random injection methods to enhance data robustness.

- One notable accomplishment was the significant improvement in model accuracy. Leveraging a Random Forest classifier, I increased the model's accuracy from 93.739% to 98.819%, reflecting a marked enhancement in prediction reliability. This achievement resulted from my close collaboration with a mentor who provided strategic guidance throughout the project.

PROJECTS

Plant Leaf Disease Detection using Convolutional Neural Network *Jan 2024*

- In this project, I developed a Convolutional Neural Network (CNN) model to accurately identify and classify plant leaf diseases from image data. The goal was to detect diseases early, providing a reliable solution for proactive crop health management.
- I implemented an end-to-end CNN model using Python, TensorFlow, and Keras, achieving high accuracy in classification tasks. I improved model performance by applying advanced data preprocessing and augmentation techniques, using OpenCV for transformations that enhanced model robustness across varied leaf textures and lighting conditions. Careful hyperparameter tuning reduced overfitting, ensuring the model generalized well on new, unseen data.
- Key tools and packages included Python, TensorFlow, Keras, and OpenCV. Using these, I optimized the CNN architecture and data handling processes, enabling the model to deliver classification accuracy significantly above baseline models.

Gold Price Prediction using Ensemble Learning Techniques *Sep 2024*

- I developed a predictive model using ensemble learning, specifically a Random Forest algorithm, to forecast gold prices based on economic indicators, with the goal of enhancing investment decision-making in dynamic financial markets.
- Using Python, I implemented the model with Pandas and Scikit-Learn, achieving high predictive accuracy. For deployment, I created a local Flask app, allowing users to input variables (spx, slv, uso, eur/usd) and receive real-time gold price predictions.

Instant Vydhya: Emergency Health Tips Web Application *Mar 2023*

- I developed "Instant Vydhya," an application designed to provide immediate health tips in emergency situations. The primary goal was to deliver accessible and reliable information to users in critical moments, empowering them to make informed health decisions quickly.
- I utilized HTML, CSS, and JavaScript to create a responsive and user-friendly interface, ensuring ease of navigation and quick access to vital information. The application was deployed locally, allowing users to receive real-time health tips based on specific emergency scenarios. This approach ensured that users could easily access critical health information when it mattered most.

Certifications

- **Virtual Internship Certificate** from AICTE in collaboration with Google on Android Development, [2024].
- **PCAP: Programming Essentials in Python** from Python Institute and Open Edge, [2022].
- **Java Certification** from HackerRank, [2023].
- **Python Certification** from HackerRank, [2023].
- **C Certificate** from CodeChef, [2022].

Coding Platforms Performance

Mention various coding platforms score with link to access your profile in respective coding websites
• Codechef:
https://www.codechef.com/users/varshith2448
• Leetcode: https://leetcode.com/u/varshit2448/
• HackerRank:
https://www.hackerrank.com/22951a66h0

Awards & Achievements

Course Completion Certificate - Microsoft
• For completion of Course in Carrer Essentials in Generative AI

Internet Of Things – IIT Varanasi
• For Participating in 48 hrs Workshop at Jawaharlal Nehru Technological University

EXTRA CURRICULAR ACTIVITIES

- Critiqued and evaluated screenwriter’s stories for Vendithera in 2024.
- Assisted in organizing and facilitating sessions on generative AI conducted by nxtwave