Nagendra K P

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Profile

Aspiring AIML with a foundational understanding of Deep Learning, Computer Vision, and Machine Learning. Eager to leverage my academic background and self-taught projects to contribute to innovative data-driven solutions in a professional environment. Passionate about continuous learning and applying theoretical knowledge to real-world challenges.

Professional Experience

10/2024–present
Banglore, India

Data Science Intern, *Nasscom Foundation*

- Processing, cleansing and verifying the integrity of data used for analysis. Doing analysis and
- presenting results in a clear manner.
- Working on building and optimizing the state-of-the-art Machine learning and Deep Learning models.
- Working and learning on how to create and automate the project lifecycle with the help of creating data pipelines.

Projects

Safety Helmet Detection Model Based on Improved YOLO-M (link)

- The **"Safety Helmet Wearing Detection Model"** utilizes an enhanced **YOLO-M architecture** for real-time detection of safety helmet compliance.
- The project involves assembling **a dataset of images, preprocessing, and fine-tuning** the YOLO-M model specifically for helmet detection. Post-training, the model performance will be evaluated using metrics like **precision and recall**.
- It will be deployed for **static image and video analysis** to improve safety in various environments.

Forest Fire Prediction (link)

- Forest Fire Prediction is a **Supervised Machine learning** problem statements. Using **Regression** is build that detected future fires based on certain Weather report.
- **HyperParameter Tuning** performed using **RidgeCV** for the model which performed best for both Regression and Classification.
- Model used **Linear regression, Lasso Regression, Ridge Regression**.
- framework is created using **Flask.**

Movie reviews sentiment analysis(link)

- Movie reviews sentiment analysis is a **natural language processing**, where we use NLP techniques to extract useful words of review and based on these words we can **use binary classification** to predict the movie sentiment if it's **positive or negative.**
- **Data Preprocessing :** Loading the dataset Encoding ouput to binary (Positive : 1 , Negative : 0).
- **Data cleaning** : Remove HTML tags, special characters, convert everything to lowercase and stopwords stemming.

Machine Learning Practical Implementations(link)

- **Exploratory Data Analysis (EDA)**: understand the dataset by visualizing distributions, identifying outliers, and uncovering patterns using tools such as **Matplotlib and Seaborn.**
- **Feature Engineering**: by creating new features from existing ones, such as **polynomial features, Handled missing data and categorical variables.**
- **Model Training and Evaluation:** models including linear regression, decision trees, and support vector machines (SVM) to predict outcomes and classify data. GridSearchCV and RandomizedSearchCV to achieve the best performance metrics.
- **Model Accuracy and Validation:** metrics like accuracy, precision, recall, F1-score.

Skills

Programming languages :
Python

Deep learning algorithms :
ANN, CNN, RNN

Database
SQL, MongoDB

Gen AI
Langchain

Machine learning algorithms :
Linear Regression, Logistic regression, Decision tree, Random forest, XGBoost

Computer Vision :
Image Classification, Object Detection, Image Segmentation, OpenCV

Frameworks
TensorFlow, PyTorch

MLops
Docker, GIT

Education

2020– 2024 Bangalore, India	Bachelor of Engineering **(CSE),** *VTU* *Cambridge Institute of Technology*	**7.17** *CGPA*
2024– 2026 Bangalore, India	Master of Technology **(AIML),** *M. S. Ramaiah University of Applied Sciences*	***First Year***

Certificates

Microsoft Certified: Azure AI Fundamentals

Microsoft Certified: Azure Fundamentals