Mehul Singh Bhakuni

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Profile

Currently pursuing B-Tech in Computer Science and Engineering from Amrita Vishwa Vidyapeetham. Aiming to leverage my strong fundamentals in data structures and algorithms, along with expertise in advanced programming and machine learning, to build innovative and data-driven solutions.

Education

BTech Computer Science Engineering *2022 – 2026*
Amrita School of Engineering, Bengaluru, India
Current CGPA: 8.5

Higher School Diploma (CBSE) *2022*
Bal Bhavan International School, Delhi, India
Percentage: 87.2%

Projects

Web Based Climate Resilience and Disaster Management Application Using Flask Framework
– Build an interactive user interface using Flask for real-time interaction and deploy it on cloud platform.
– Developed a predictive model that uses 100000 historical and real-time climate data to forecast potential disasters with 99% accuracy and improve climate resilience.
Stacks used: Python, Flask, MySQL, Postman ,API, Scikit-Learn, Pandas, Seaborn, Matplotlib, EDA, k-NN, Linear Regression, Random Forest, Feature Engineering

Daily Energy Consumption Forecasting
– Implemented a prediction model using 50000 plus historical data points and trained different ML models to forecast Daily Energy Consumption using historical data.
– Achieved 88% accuracy and also built a Basic UI using Stream lit for Presentation in real time.
Stacks Used: Python, Power Systems, Scikit-Learn, Pandas, Seaborn, Matplotlib, Stream lit, EDA, Linear Regression, Random Forest, Decision Trees.

Eye Tracking Model for Cognitive Analysis
– Developed a webcam-based eye-tracking system using a custom dataset collected via the RealEye platform to analyze student gaze patterns and predict Bloom's Taxonomy cognitive levels.
– Achieved 76.12% accuracy using an ensemble ResNet50 CNN, also utilized data augmentation techniques for improved robustness and employed Grad-CAM visualizations to enhance model interpretability.
Stacks Used: TensorFlow, OpenCV, Realeye, CNN, Data Augmentation, Grad-CAM, Pandas

Gaze-Based Fake News Detection
– Designed a fake news detection system leveraging gaze-tracking data to analyze user perception and reading patterns.
– Utilized the FakeNewsPerception dataset to extract fixation points and gaze-based features for identifying news credibility.
– Engineered a robust pipeline integrating data preprocessing, feature extraction, and model evaluation.
Stacks used: Python, Machine Learning Libraries (e.g., scikit-learn, XGBoost).

Skills

- **C++** — Advanced
- **Python** — Intermediate
- **Java** — Proficient
- **Data Structures and Algorithms** — Proficient

Tech Stack: NumPy, Pandas, Matplotlib, Seaborn, Beautiful Soup, Scikit-learn,TensorFlow, EDA, Statistics, SQL, Power BI, Tableu, Git/GitHub, Jira

Certificates

- Java - Udemy
- C++ - Udemy
- Machine Learning - NSDC

Soft Skills

Team Player, Quick Learner, Flexible in Collaborative and Leadership role, Multitasker