Bhanu Kumar

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EDUCATION

Indian Institute of Science   Bengaluru, India
B.Tech in Mathematics & Computing   *2022 – Present*

Army Public School S.V.   New Delhi, India
CBSE 12th Board, 81% aggregate   *2021*

Army Public School S.V.   New Delhi, India
CBSE 10th Board, 89% aggregate   *2019*

TECHNICAL SKILLS

Programming Languages: Python, SQL, C++
Frameworks & Libraries: PyTorch, TensorFlow, NumPy, Pandas, Scikit-learn, HuggingFace, LangChain, Flask, Matplotlib, RestfulAPI, Node.js
Tools and Platforms: Google Colab, Docker, Postman, Git, Linux Enviornment, AICloud Services like AWS Azure Google Cloud e.t.c

PROJECTS

Wildlife Conservation Monitoring System | *Computer Vision, YOLOv11, Siamese Network*   code
- Developed a computer vision-based system to support wildlife conservation by classifying animal species and detecting individual animals
- Trained a Siamese Network for animal reidentification and implemented YOLOv11 for species classification task
- Utilized Groq for AI inferences and text summarization task; built an interactive website using Streamlit

Rental Bike Count Prediction | *XGBoost, Optuna, Data Analysis*   code
- Performed A/B Testing to identify crucial parameters for rental bike count prediction
- Trained XGBoosted Decision Tree Model and optimized using Optuna to achieve 92.2% Test r2 score
- Utilized Matplotlib and Seaborn for data visualization and statistical inference

Custom Jokes Generation | *NLP, Hugging Face, GPT-2*   code
- Created a custom Decoder model using AutoTokenizer from Hugging Face
- Developed end-to-end pipeline from data preprocessing to model training and generation
- Fine-tuned GPT-2 model on the same dataset for comparative analysis of generated jokes

RELEVANT COURSEWORK

Artificial Intelligence and Data Science: Decision Trees, Random Forests, Boosting, Bagging, K-Means Clustering, Neural Networks, Model Evaluation, Data Visualization,Feature Engineering, Regression, Classification
Natural Language Processing: Semantic Analysis, Text Preprocessing, Language Models, Sequence-to-Sequence Models and Attention Mechanisms.
Computer Vision: Resnet, YoLO
Scalable Systems: Data Structures and Algorithms, Parallel Programming, GPU Architectures, OpenMP, MPI