Naman Bhargava

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Available: May- August 2024

EDUCATION

Master of Data Science Aug. 2023– Present
University of Michigan, Ann Arbor, MI Expected Graduation: May 2025
CGPA: 4.0/4.0
Relevant Courses: Information Visualization, Statistical Learning

Integrated Master of Science (Software Systems) June 2018- June 2023
PSG College of Technology, Coimbatore, India
CGPA: 8.75/10
Relevant Courses: Database Management Systems, Machine Learning, Natural Language Processing

PROFESSIONAL EXPERIENCE

AIMS Lab, University of Michigan, Ann Arbor Sept. 2023 - Present
Graduate Student Research Assistant

- Designed and implemented a Data Mining and Labelling pipeline to extract and analyze the sentiment of tweets related to Nuclear Engineering.
- Finetuned large language models on a multi-GPU architecture, significantly optimizing training time for a dataset of 500,000 entries and achieving 94% accuracy.

Indian Institute of Technology Roorkee, India Dec. 2022- May 2023
Undergraduate Research Intern

- Implemented XGBoost model to predict the anomaly in crop growth within the first 5 weeks of sowing.
- Augmented data using GAN model, which improved XGBoost performance to 80%.
- Created a yield prediction app in MATLAB using SVM model, along with further analysis by displaying temporal variations in individual field data using visual interface.

Institute of Mathematical Sciences Chennai, India [Paper][Code] June 2022- July 2022
Summer Intern

- Developed Support Vector Machine model for assessing contamination of maternal milk by chemicals with an accuracy of 77.33% and specificity of 84%.

Indian Institute of Technology Roorkee, India [Paper] June 2021 – Dec. 2021
Undergraduate Research Intern

- Built XGBoost model(RMSE=0.159) to estimate Fractional Vegetation Cover parameter using SAR data for Wheat and Sugarcane crops.
- Employed feature selection techniques to select the 5 most important features for prediction, thus reducing prediction time over large fields.

TECHNICAL KNOWLEDGE

Programming Languages: Python, R, MATLAB
Machine Learning & Analytics: TensorFlow, scikit-learn, PyTorch, Keras , Matplotlib, seaborn, Tableau, Excel

ACADEMIC PROJECTS

Kaggle Forecaster [Paper]

- A **Time Series Analysis** model developed in Python using SARIMA with MAPE of 11%.
- Optimized the data extraction and prediction process using Factory and Adapter Patterns, improving code maintainability by **46.18%** and reduced its complexity by **73.5%**.

Travel Assistant

- Developed a travel assistant incorporating Google Gemini, enabling users to upload location images and receive travel routes to the destination using Google Maps API.
- Implemented additional chatbot feature, facilitating personalized trip planning based on user preferences.

Soccer Analytics [Dashboard]

- Designed and developed an interactive dashboard for analyzing player performance and event distribution in soccer leagues.
- Implemented multiple filter options for users to customize the analysis based on league, game, players, and specific events, from a dataset containing more than 30,00,000 entries.