Harshitha Pydimalla

Machine Learning Specialist

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Professional Summary

I am a Master's graduate in Artificial Intelligence with solid foundations in machine learning, deep learning, and statistical modeling. Gained hands-on experience through academic projects and internships, applying algorithms to real-world problems using Python, Scikit-learn, TensorFlow, and PyTorch. Familiar with data preprocessing, feature engineering, model evaluation, and version control (Git). Proven ability to collaborate in teams, solve complex problems, and manage time effectively. Eager to contribute to impactful projects with a strong drive to learn and grow in dynamic environments.

Skills

Programming Languages & Tools: Python, Java, JavaScript, React.js SQL, HTML, CSS, NumPy, Pandas, Jupyter Notebook, Google Colab
Data Science & Machine Learning: Machine Learning, Data Science, Mathematics, Model Training, Model Evaluation, Feature Engineering, Natural Language Processing, Data Cleaning
Statistical & Time Series Analysis: ARIMA, SARIMA
Data Visualization: Matplotlib, Seaborn
Software Development: Data Structures & Algorithms, Object-Oriented Programming, Git, GitHub
Databases: MySQL, SQL, Hadoop
Other Skills: Problem-solving, Microsoft Tools, Network Performance Analysis, Scalable Machine Learning
Soft Skills: Problem-solving, Analytical Thinking, Communication, Team Collaboration, Adaptability, Attention to Detail, Time Management, Multitasking

Projects

AI for formal verification and mathematical proofs 06/2025 – present

- Conducting an in-depth literature survey on the use of AI in formal verification and automated theorem proving using recent publications from arXiv and Springer.
- Analyzing neural-symbolic methods, large language models, and reinforcement learning techniques applied in tools such as Lean, Coq, and Isabelle.
- Designing and developing an interactive website to present findings, including tool comparisons, research summaries, and guided tutorials.
- Integrating a GPT-based NLP assistant to respond to user queries on formal methods, AI-driven proof strategies, and related tools.
- **Tools:** Python, React.js, GPT API, HTML/CSS, Markdown, Jupyter, Lean (documented), GitHub

Web Traffic Time Series Forecasting 02/2025 – 05/2025

- Developed time series forecasting models to predict future pageviews of Wikipedia articles across multilingual languages.
- Used SARIMA model with log-transformation and seasonal differencing to capture weekly and yearly patterns.

- Applied chronological train/validation/test split to ensure robust evaluation and prevent data leakage.

Tools: Python, Pandas, Statistical Models (SARIMA), Matplotlib, NumPy, seaborn, scikit-learn

Analysis of Physical and Mental Health Issues due to excessive screen time in youngsters 01/2023 – 04/2023

- This project analyzes the effects of excessive screen time on the physical and mental health of individuals aged 16-2 using survey data from 685 students.
- After cleaning and encoding the data, statistical tests identified significant links between screen time and health issues. A Random Forest model was developed to predict the negative impact of screen time over four hours, achieving 100% accuracy.
- Findings reveal that extended screen use is associated with headaches, sleep problems, back pain, and decreased physical activity, highlighting the need for balanced digital habits to support better health.

Tools: Survey & Data Analysis, Random Forest, CHI-Square test, Feature Correlation Analysis, Feature Engineering.

Face Recognition using LBPH Algorithm 02/2022 – 03/2022

- Developed a face recognition system using the Local Binary Patterns Histograms (LBPH) algorithm to identify and verify individuals from images.
- The project involved preprocessing face images, extracting facial features with LBPH, and training a classifier for accurate recognition.
- The model demonstrated robustness to variations in lighting and facial expressions, making it suitable for real-time applications like access control or attendance systems.

Tools: Python, Machine Learning, OpenCV, Image processing, Numpy, scikit-learn, Jupyter Notebook

Education

The University of Sheffield 09/2025 – present
Masters in Artificial Intelligence

Karunya Institute of Technology and Sciences 06/2019 – 07/2023
Bachelor of Technology in Computer Science and Engineering

- Secured an overall percentage of 70.11%

Extracurricular Activities

Member of National Service Scheme 07/2019 – 04/2023

Member of Nature Club 01/2022 – 04/2023

Interests

Reading | Theological Reasearch | Singing | Travelling

Languages

English	●●●●●	Telugu	●●●●●
Hindi	●●●●○	Tamil	●●○○○