Hemasree G R

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SUMMARY

Data Science graduate student with a strong foundation in Machine Learning, Optimization, and Natural Language Processing. Hands-on experience applying Operations Research techniques to real-world problems like object placement and resource optimization. Eager to solve forecasting, logistics, and business intelligence challenges by combining OR, ML, and deep learning methods.

EDUCATION

Integrated MSc - Data Science
Amrita Vishwa Vidyapeetham, Coimbatore | 2020 - 2025
CGPA: 7.5 (Current)

Higher Secondary Education (State Board)
Vairams Matriculation Hr. Sec. School, Pudukkottai | 2019 - 2020
Percentage: 83%

Secondary Education (State Board)
Vairams Matriculation Hr. Sec. School, Pudukkottai | 2018 - 2019
Percentage: 92%

EXPERIENCE

Data Science Intern - Onsite
IIT Madras, Chennai | Aug 2024 - Present
- Solved an object placement optimization problem using Operations Research principles and heuristics.
- Developed image processing workflows and integrated them with a front-end interface.
- Built a domain-specific chatbot using NLP and Langchain, integrated into a Streamlit dashboard.

Python Developer Intern - Remote
Rivan Solutions, Telangana | Sep 2023 - Feb 2024
- Performed large-scale web scraping using Beautiful Soup and Requests in Python.
- Stored scraped data in structured formats using SQL and NoSQL databases for analytics.

SKILLS

Programming Languages: Python
Libraries/Frameworks: Numpy, Pandas, TensorFlow, Keras, Scikit-learn, Matplotlib, OpenCV, Langchain
Concepts: Machine Learning, Deep Learning, NLP, Time Series Forecasting, Operations Research, Optimization
Tools: Streamlit, Git, SQL, CPLEX (basic exposure)
Soft Skills: Communication, Problem-solving

PROJECTS

Forecasting Forest Fires using Deep Learning & Transfer Learning

- Built a deep learning model to classify fire, smoke, and non-fire images.

- Aimed at proactive wildfire prediction and monitoring through image analysis.

Multi-PDF Chatbot using RAG Architecture

- Developed a chatbot to answer user queries based on three annual reports (Tesla, Uber, Google).

- Integrated Retrieval-Augmented Generation for dynamic context handling.

Anomaly Detection in Smart Contracts (Comparative Study)

- Evaluated One-Class SVM, Isolation Forest, and Elliptic Envelope models.

- Built ensemble methods to improve robustness in anomaly detection in Ethereum smart contracts.

ADDITIONAL INFORMATION

Hobbies: Reading

Languages Known: Tamil (Native), English (Professional), Hindi (Elementary)