Rishab Premod Nambiar

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Aspiring Data Scientist passionate about using AI to understand patterns, predict outcomes, and support decision-making. Experienced in machine learning, deep learning, and data visualization, with projects spanning NLP, forecasting and computer vision. Seeking an internship to bring strong analytical thinking and practical ML skills to real-world data-driven challenges

Education

Amrita Vishwa Vidyapeetham, Coimbatore   *Sept 2022 – Present*
4th Year Integrated MSc Data Science

- **GPA :** 8.99/10
- **Coursework:** Deep Learning, Machine Learning, Data Visualization, Statistics, Database Management System, Data Wrangling, Image Processing

Kendriya Vidyalaya No 1, Calicut   *2020-21*
AISSCE

- **Marks :** 95.2
- **Subjects :** Physics, Chemistry, Maths, Biology

Projects

Image colorization using GANs

- Built an end-to-end image colorization pipeline using a Pix2Pix GAN (Generator–Discriminator) to convert grayscale images into realistic color outputs.
- Optimized adversarial training to improve visual fidelity and color consistency; achieved PSNR: 24.56 and SSIM: 0.899.
- Implemented preprocessing and evaluation workflow in Python for reproducible training and metric-based comparison.

Adaptive Traffic signal controller using Reinforcement Learning

- Designed a Deep Q-Learning (DQN) based traffic-signal controller for a 2-way intersection simulation, learning optimal phase switching from environment rewards.
- Improved traffic flow by reducing congestion by approx 10% compared to static signal timing; measured performance using throughput and average waiting time.
- Built the environment and visual simulation using PyGame, enabling quick experimentation and training stability checks.

DetectAI: Human vs AI-Generated Text Classifier

- Developed a hybrid AI-text detection system combining TF-IDF + Random Forest + BiLSTM with a fine-tuned RoBERTa transformer, achieving 98.64% accuracy.
- Integrated SHAP + LIME explainability to highlight influential words/phrases and improve trust and interpretability of predictions.
- Deployed the classifier using Gradio, providing an interactive interface for real-time inference and demo-ready usability.

Predictive Demand Modeling in the Logistics Industry

- The project focuses on developing a time series forecasting model to predict grocery sales using the XGBoost algorithm. Handled various aspects of data preparation, exploratory data analysis (EDA), feature engineering, and model optimization to enhance prediction accuracy using XGBoost.
- Trained and tuned XGBoost to improve forecast accuracy and stability across varying demand patterns.
- Won SMILe Logistics Innovation Hack - Hackathon event as part of a team.

Illegal Fence Detection System using AI for wildlife conservation

- Contributed to an AI-powered drone-based system to detect illegal electric fences in wildlife regions using YOLOv4 object detection.
- Improved detection reliability under field-like conditions by working on data preprocessing and model refinement.
- Presented as a paper in the Fifth International Conference on Artificial Intelligence & Smart Computing (ICAISC-2025)

Ongoing :

MockViewAI

- Developing a project for software engineering course where the user can upload his/her resume and the system would ask interview questions to the user based on the job description.
- The user will be evaluated to the basis of the answers to each question.

Malware Classifier using Zero Shot Learning

- Developing a Robust malware classifier using zero shot learning using the MaleVis and MalImg dataset
- Evaluating adversarial robustness using PGD / FGSM attacks, analyzing performance drops under perturbations.

Skills

- **Programming:** Python, R, SQL, MATLAB
- **ML / DL:** Scikit-learn, XGBoost, PyTorch, Transformers, NLP, Computer Vision
- **Data Analysis:** NumPy, Pandas, SciPy
- **Visualization:** Matplotlib, Plotly, Tableau
- **Deployment:** Streamlit, Gradio

Other Courses/Certifications

Python (Basic) Certification - *Issued by HackerRank*

Problem Solving (Basic) Certification - *Issued by HackerRank*

Extra Curricular Activities

- Part of the technical team that conducted Ideathon '24 - a Hackathon conducted during the Anokha Tech Fest of Amrita Vishwa Vidyapeetham, Ettimadai Campus
- Won fifth prize in group song (Indian) at the 38th AIU Inter University Youth Festival South Zone.
- Won fourth prize in group song (Indian) at the 39th AIU Inter University Youth Festival South Zone.