UMESH ESHWAR REDDY

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SUMMARY

Enthusiastic AI/ML student with a solid grasp of supervised & unsupervised learning, data preprocessing, and model optimization. Developed multiple academic projects involving regression, classification, and Natural Language Processing. Seeking an opportunity to apply ML knowledge in a dynamic industry role.

TECHNICAL SKILLS

- Python
- ML Frameworks: PyTorch, Scikit-learn, XGBoost, OpenAI Gym
- Deep learning: TensorFlow, Keras, Hugging Face Transformers
- Tools: PowerBI, Google Colab, VS Code, PyCharm, AWS, Jupyter Notebook
- Time Management, Leadership, Effective Communication, Critical Thinking

PROJECTS

Text-Based Postpartum Depression Prediction Using BERT Embeddings and XGBoost

- Developed an end-to-end NLP pipeline leveraging pre-trained BERT models to extract deep semantic features from postpartum support group text, enabling accurate classification of mental health states.
- Integrated BERT embeddings with an XGBoost classifier to form a robust hybrid model, demonstrating practical knowledge of combining deep learning and classical ML techniques for real-world text classification.
- Managed noisy and imbalanced datasets using tokenization, SMOTE oversampling, and hyperparameter tuning, ensuring improved model generalization and high predictive performance.

Double Deep Q-Network-based Lunar Lander using Gym

- Implemented Transfer Learning with MobileNetV2 to build an image classifier, utilizing pre-trained convolutional layers for feature extraction on a new dataset.
- Experience Replay & Target Networks: Enhanced training stability and performance by integrating experience replay and target networks to handle state-action-reward transitions and reduce correlations in the learning process.
- Hyperparameter Optimization: Fine-tuned key hyperparameters such as learning rate, discount factor, and memory buffer size to achieve optimal agent performance, resulting in successful lunar landings within a simulated environment.

EDUCATION

BTECH- CSE With AI and Robotics **2021-2025**
VIT University, Chennai
- Thesis on "Text-Based Postpartum Depression Prediction Using BERT Embeddings and XGBoost".

Higher Secondary School(12th) **2020-2021**
Kalaimagal Viddyalaya
- HSC-Percentage- 87.3

ADDITIONAL INFORMATION

- **Languages:** English, Tamil, Telugu, Hindi
- **Certifications:** AWS Certified Cloud Practitioner, Artificial Intelligence (Teachnook), PowerBI (Be10x), AI tools and ChatGPT workshop (Be10x), Data Analysis With Python workshop (Cognitive Class).