Praneeth Posina

716-468-9996 | leelasat@buffalo.edu | linkedin.com/in/praneethposina
github.com/praneethposina | praneethposina.github.io

EDUCATION

University at Buffalo, Buffalo, NY
Masters in Artificial Intelligence **Aug 2023 - Dec 2024**

KL University, Hyderabad, India
Bachelor of Technology, Electronics and Communication Engineering **Jun 2019 - May 2023**

Relevant Courses: Artificial Intelligence, Machine Learning, Math for Computing, Algorithms Analysis and Design, Deep Learning, Information Retrieval, Data Science & Big data, Data structures, Object Oriented Programming.
Certifications: Azure AI fundamentals, Google Cloud Skill Badges, AWS Machine Learning Foundations, Oracle CI Architect Associate.

SKILLS

Languages: Python, C, C++, Java, SQL.
Frameworks & Libraries: TensorFlow, Keras, Scikit-Learn, NLTK, OpenCV, PyTorch, Hadoop, MapReduce, Tableau, Power BI.
Other Skills: Deep Learning, MLOps, MLFlow, CUDA, CI/CD, Git, Version Control, CLI, Computer Vision, Large Language Models, Natural Language Processing, Computer Science, Data Analysis, Cloud Computing, Docker, Containerization, Kubernetes.

EXPERIENCE

ML Research Assistant
KL University **Dec 2021 - Jan 2023**

- Led research on mediastinal lymph node malignancy detection, developing models that increased diagnostic accuracy to 98.2% using reinforcement learning techniques.
- Authored two IEEE-published papers [1] [2], introducing innovative methods that outperformed existing models by 3% and 4% respectively in accuracy.
- Engineered and validated custom deep learning algorithms, including a DQN policy and an ensemble learning strategy, achieving a 98.56% accuracy rate.
- Analyzed extensive medical image datasets, ensuring robust model performance and contributing to significant advancements in medical diagnostics.

PROJECTS

LLM Powered Mobile Assistant **LLaMA 3.1 8B, Appium, Groq, Python**

- Developed an LLM-powered mobile assistant using a fine-tuned LLaMA 3.1 (8B) model to achieve complex task execution with over 90% accuracy. Leveraged Appium for real-time app UI analysis and action automation, enabling dynamic interaction and error recovery, allowing the assistant to adapt and navigate unfamiliar apps seamlessly.

Text Generative AI **Gen AI, LLMs, Python**

- Developed a text-generative AI system using transformers to generate fiction stories, Trained over the vocabulary size of 42610 with 43 million parameters. Optimized the model architecture and hyperparameters to achieve a 4.02% testing loss in generating coherent and diverse storylines.

Multi-Agent Reinforcement Learning System **RL, PyTorch, Python**

- Architected and implemented a complex multi-agent game environment, leveraging DQN and A2C algorithms to train competitive AI agents. Achieved 99% target rate and 80% improvement in agent efficiency over 2000 training episodes, significantly outperforming random baseline models.

Deepfake Detection System **OpenCV, Deep Learning, PyTorch, Python**

- Engineered a state-of-the-art deepfake detection model using ResNeXt101 architecture and Bidirectional LSTM, achieving 91.30% validation accuracy and 86.96% test accuracy on a 477GB dataset. Outperformed baseline CNN by 17.95% and matched leading models like EfficientNet in accuracy while providing superior interpretability through heatmap visualizations.

Sentiment Analysis of Airline Reviews **NLP, Python**

- Designed an LSTM-based model for sentimental analysis of airline reviews with 95% accuracy on a dataset of 11,500 tweets, enabling more precise analysis of customer feedback.

Object Detection using YOLO Algorithm **OpenCV, Python**

- Built an object detection system using the YOLO computer vision technique to identify and locate objects within an image or video, achieving a 97% accuracy rate.

ACHIEVEMENTS & LEADERSHIP

- Secured 13th Rank in India's nationwide Machine Learning hackathon challenge 2021.
- Mentored over 150 students as Vice President of the University's Coding Club, fostering a culture of coding practice and participation in coding challenges.
- Awarded the Prime Minister's scholarship for exceptional academic performance throughout undergrad studies in India.