PARAS PARANI

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EDUCATION

Masters Of Science - Computer Science **May 2025**
Florida International University; Miami, FL, USA
GPA: 3.83/4.0

Bachelor of Technology - Mechatronics **July 2022**
Symbiosis University of Applied Sciences; Indore, India
GPA: 3.71/4.0

SKILLS

Machine Learning & Deep Learning: Vision Transformers, Reinforcement Learning, LLMs, Neural Networks, NLP, PyTorch, TensorFlow, Explainable AI (XAI), Weights and Biases, PEFT, Accelerate, DeepSpeed
Programming & Software Engineering: Python, Bash, Django, REST APIs, CUDA, SQL
Advanced Courses: Advanced Topics in Machine Learning, Operating Systems
High-Performance Computing: SLURM (Simple Linux Utility for Resource Management), Kubernetes
Cloud & Infrastructure: AWS, Azure

PUBLICATIONS

P. Parani, U. Mohammad and F. Saeed "Utilizing Pretrained Vision Transformers and Large Language Models for Epileptic Seizure Prediction" accepted to the 8th International Conference on Data Science and Machine Learning Applications (CDMA 2024) (Link)

EXPERIENCES

Florida International University | Miami, FL, USA **May 2024 - Present**
Graduate Research Assistant

- Fine-tuned transformer models and LLMs on EEG data, achieving a 15% accuracy improvement in seizure prediction.
- Developed a custom, lightweight transformer-based architecture in PyTorch, outperforming fine-tuned LLMs by 5% in seizure prediction accuracy.
- Leveraged Weights and Biases for experiment tracking and hyperparameter optimization to enhance model performance.
- Managed large-scale job distribution with SLURM for efficient LLM fine-tuning, reducing training time.
- Improved model generalization through domain shift analysis and adversarial training

Ignatiuz Software Pvt Ltd | Indore, India **September 2021 - July 2023**
Senior Associate

- Spearheaded the revamp of the Scoutfoto project by integrating Django-based APIs and deploying to Azure, improving operational efficiency by 80%
- Led development of a Python-based deepfake video project

PROJECTS

UtilLLM_EPS | GitHub Link **August 2024**

- Preprocessed EEG data for compatibility with ViTs and LLMs, enhancing seizure prediction accuracy by 15%
- Adapted and fine-tuned ViT and LLM architectures, focusing on key features in EEG time-series data
- Optimized model performance through hyperparameter tuning and tracked experiments with Weights and Biases
- Documented and prepared the model for deployment, making it accessible for further research via GitHub

Object Detection Using Pytorch | GitHub Link **September 2023**

- Implemented object detection using the resnet_fpn_backbone model, combining ResNet with Feature Pyramid Network (FPN) for enhanced accuracy in image recognition

Recipe Generator with Taste Preferences | GitHub Link **Ongoing**

- Building a recipe recommendation system using pre-trained models to analyze food images, generate recipes, and dynamically adjust based on user preferences with reinforcement learning and NLP.