Zulqarnain Haider

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Experience

CodeNinja Inc. H-11, Islamabad
Machine Learning Engineer *12/2024 – 05/2025*

- Developed a real-time object detection pipeline using YOLOv11 for surveillance and anomaly detection tasks.
- Built a multi-agent simulation environment for decision-making tasks, integrating RL-based agents.
- Fine-tuned visual transformer models (ViT, SAM) on a custom dataset for instance segmentation.
- Integrated vision-based agents into simulated environments (Unity + ML-Agents) to train autonomous behaviors.
- Optimized video inference workflows by introducing asynchronous frame processing, reducing latency by 30%.
- Built CI/CD pipelines for vision models using Jenkins and Docker, automating training, deployment on SageMaker
- Designed an MLOps framework for computer vision models using Kubeflow, enabling scalable training workflows.

Parallel Computing Networks H-11, Islamabad
AI Researcher *11/2023 – 11/2024*

- Implemented Graph Neural Networks on news data to uncover patterns and relationships using PyTorch.
- Conducted feature extraction from text for classification and embedding in NLP tasks using PyTorch.
- Fine-tuned transformer-based models using PEFT from HuggingFace for bias detection across multiple news .
- Optimized distributed training speeding up training times by 25% and improving model accuracy by 9%.
- Developed MLOps infrastructure for automated model training and deployment pipelines using Kubeflow.
- implemented CI/CD systems for continuous integration and deployment of ML models using Jenkins.
- Collaborated with cross-functional teams to integrate ML models into production systems using AWS SageMaker.

Replit San Francisco, USA (Remote)
System Programmer (Rust) *08/2022 – 12/2023*

- Developed and maintained complex Rust codebases, ensuring memory safety, ownership rules.
- Designed and implemented low-level concurrency mechanisms with Tokio to enhance performance.
- Optimized PostgreSQL database configurations, indexing strategies, and query performance to improve retrieval.
- Designed custom Rust-based proxy solutions for secure database access, including connection pooling and caching.
- Conducted performance profiling and tuning of Rust applications, resulting in a 30% reduction in execution time.

Education

FAST National University of Computer and Emerging Sciences Islamabad, Pakistan
Bachelor of Science in Computer Science *08/2019 – 06/2023*
Courses included both CS (Programming,Databases,Artificial intelligence) and Business subjects

Open Source Contribution

- Contributed to the Lumigator Mozilla AI project by addressing the handling of llamafiles PR link 321
- Contributed Video Swin Transformer implementation to KerasHub(working) PR link 1981
- added info command text display change the order of command display to Nebari Project 2916
- Evaluate SAEs with KL divergence when grafted into the model to EleutherAI(working) 100

Technical Skills

Programming: Python, Rust
Machine Learning Frameworks: PyTorch, Keras, scikit-learn, MLFlow,TensorBoard
Deep Learning: Neural Networks, CNNs, GANs, CUDA,TensorRT,Optimisation
Rust Frameworks & tools: Tokio,Actix,Rayon,cargo,clippy