Sai Gilukara

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EXPERIENCE

Machine Learning Engineer - Internship | *Radical AI, New York, NY* Mar 2024 - Present

- Directed the Gemini Quizify project, by developing a personalized AI educational quiz tool using ChromaDB and supported 10,000 students in their exam preparation using GPT 4.
- Managed a Streamlit user interface and data pipeline for Chroma DB, enhancing quiz delivery reliability across 10 programs, serving 5,000 daily users.

Computer Vision Scientist - Internship | *Smart Imaging Systems, Beltsville, MD* Apr 2023 - Aug 2023

- Designed and integrated a real-time vehicle entry and exit detection algorithm into a portable X-ray scanner, boosting transportation efficiency by 30% and enhancing security.
- Enhanced efficiency through innovative algorithm development and successful system integration in close collaboration with 2 former NASA engineers.
- Attained 95% vehicle detection accuracy using onboard system without depending on cloud and resolving security concerns.

Machine Learning Engineer - Internship | *Neuland Labs Pvt. Ltd, India* May 2021 - Jul 2022

- Developed an AI-powered regulatory compliance chatbot using NLP and document automation, reducing compliance processing time by 25%.
- Integrated advanced ML models to enable real-time document generation and regulatory submissions, enhancing operational efficiency for compliance teams.

PROJECTS

Visually Impaired Navigation Assistance | *Python, vision-language models, OpenCV, pytorch*

- Implemented real-time scene description system using ExpansionNet v2 model with 85% accuracy.
- Addressed processing real-time video streams for scene interpretation by making the model lighter and multi-threading, significantly enhancing the mobility by 30%.

Multi-Mesher: Diffusion Driven 2D to 3D Mesh Reconstruction | *Python, OpenCV, Pytorch3d*

- Deployed two-headed PointNet architecture for generating textured 3D meshes from multi-view images.
- Successfully adapted the PointNet architecture for 3D structure reconstruction from 2D images, by harmonic embedding of mesh vertices and specialized input layer modifications.

Body Pose Estimation using Deep Learning | *Python, OpenCV, PyTorch, CNN*

- Improved CNN-based pose estimation and orchestrated training for 98% accuracy in real-time applications like Image Classification, Image Processing, Object Detection.

SKILLS

Languages: Python, C++, C, MATLAB, Doxygen, HTML, React, CSS, SQL, LaTeX
Frameworks: TensorFlow, PyTorch, Keras, LlamaIndex, GCP, LangChain, Linux, PySpark, Streamlit, Flask
Tools: Git, Docker, MLOps, Kubernetes, Chroma DB, CI/CD, pandas, matplotlib, seaborn
AI: Machine Learning, Computer Vision, NLP, Audio Processing

EDUCATION

Master of Engineering in Robotics Aug 2022 - May 2024
University of Maryland, College Park, MD GPA: 3.77

PUBLICATIONS & CERTIFICATION

arXivLabs | *Convolutional Block Attention GANs for Sampling-Based Path Planning* **(paper link)**
LinkedIn Learning | *Google Cloud Platform for Machine Learning Essential Training*
LinkedIn Learning | *RAG and Fine-Tuning Explained*