KRISHNA PRIYA

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SKILLS SUMMARY

- **Languages**: **Python**, **C++, C**, MATLAB, HTML/CSS, **JavaScript**, **SQL, Cypher**
- **Frameworks**: **Pytorch, Tensorflow**, React, **FastAPI**, Numpy, Pandas**, PostgreSQL, Neo4j, OpenAPI, LangChain**
- **Tools**: **Git**, Github, **Docker**, **Postman**, Jira, AWS, **REST**, Kubernetes, **Linux, LangSmith**
- **Skills**: **Algorithm** Design, Web Development, **Databases**, **Microservices**, **ML & DL, NLP, LLMs**

EXPERIENCE

Data to Insight Center, Indiana University - Applied ML Researcher Aug 2024 -Present

Indiana University, USA

- **Developed** a **conversational AI** system that **integrated LLMs** with **the Neo4j graph database,** enabling dynamic **cypher query generation** and **execution.**
- **Designed** and **implemented agent-based architecture** that routes queries through various processing nodes with pretrained LLMs to **enhance real-time query interpretation.**
- **Developed** a **Graph Neural Network model** using **Relational Graph Convolutional Networks (RGCN)** to detect perturbations in the **Neo4j Graph Database,** enabling profiling of ML models deployed for **Edge to Cloud AI** deployments**.**

Indiana University School of Optometry - Research Machine Learning Engineer Mar 2024 -July 2024

Indiana University, USA

- **Developed** a CNN model for cone photoreceptor **segmentation in AO-OCT images**, enhancing diagnostic accuracy for retinal diseases.
- **Designed** a multi-stage pipeline with CNN modules, to segment retinal layers, detect vasculature and identify cones, offering biomarkers for early detection of photoreceptor degeneration.

Cogoport - Software Engineer Aug 2022-Aug 2023

Mumbai, India

- **Automated a backend system** to monitor and analyze freight data, **boosting efficiency by 70%**. Implemented an **ETL pipeline** processing over 1M data points, **increasing throughput by 60%.**
- **Developed** an **OCR-based system using CNN**, leveraging Faster RCNN and CRNN, to process 50,000+ daily logistics documents, **reducing processing time by 80% per document** and saving 70% in manual effort.
- **Led** a **team of 5** to design an **NLP-based documents and email processing system**, **improving workflow efficiency significantly**. Created APIs using **FastAPI** to support operations.

LTIMindtree - Software Engineer Jun 2018 - Dec 2019

Banglore, India

- **Developed** a real-time sensor data extraction system for 500+ automobiles using Python and Azure IoT Hub, **optimizing cloud** storage and processing, improving **business efficiency by 50%** and cutting **costs.**
- **Created** RESTful **APIs with Flask** for secure and efficient data access. **Integrated APIs** with client applications and third-party systems, **enhancing the functionality** of the monitoring system.

PROJECTS

- **Doctor-Patient ChatBot using LLM Fine-tuning (link)**: Developed a healthcare chatbot with **fine-tuned Mistral-7B** on the HealthCareMagic-100k dataset for real-time consultations via **Gradio**. Optimized GPU use with **QLoRA and PEFT**, and evaluated **scalability with BLEU, ROUGE, and METEOR metrics**. *(May 2024)*.
- **Text-Image Generator(link):** Developed a mini diffusion model from scratch by implementing **UNET** architecture and **Variational Auto Encoder using PyTorch** which generates images based on a given text prompt. (Aug 2024)
- **MediApp: Patient & Health Insurance Management Web Application (link)**: Developed a **full-stack React and Django application** for managing medical records, appointments, and insurance claims with **secure multi-user access** for patients, doctors, and providers. *(March 2024)*.

EDUCATION

Indiana University, Bloomington **Indiana, USA**
Master of Science, Intelligent Systems Engineering - Computer Engineering, AI/ML (CGPA 4.0) Dec 2025

Indian Institute of Technology (IIT), Kanpur **Kanpur, India**
Master of Science, Electrical Engineering - Photonics, AI/ML (CGPA 3.7) Jul 2022