KRISHNA PRIYA

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SKILLS SUMMARY

- **Languages**: **Python**, **C++, C**, MATLAB, HTML/CSS, **JavaScript**, PHP
- **Frameworks**: **Pytorch, Tensorflow**, React.js, **Django**, **FastAPI**, Firebase, MySQL, **PostgreSQL, Neo4j, LangChain**
- **Tools**: **Git**, **Docker**, **Postman**, Jira, AWS, Azure, REST APIs, **Linux, LangSmith**
- **Skills**: **Algorithm** Design, **Web** Development, **Database** Management, **ML, NLP,** CV, GenAI, **Knowledge Graphs**

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 **Neo4j graph database,** enabling **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.**
- **Working** on an **NSF funded** project connecting **Edge to the cloud** using **Apache Kafka** for event streaming, **Neo4j** for knowledge graphs and optimizing ML model placement to enhance QoE in **Edge cloud AI workloads.**

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

- **Developed** a 3-D CNN model for automatic 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 identifying cones, offering bio markers for early detection of photoreceptor degeneration.

Cogoport - Machine Learning 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 **object detection model** with **TensorFlow and Keras**, enhancing document processing **efficiency by 60%** through RPN, RoI Pooling, and data augmentation.
- **Led** a **team of 5** to design an **NLP-based 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).*

- **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).*

- **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)

EDUCATION

Indiana University, Bloomington	**Indiana, USA**
Master of Science, Intelligent Systems Engineering - Computer Engineering (CGPA 4.0)	Dec 2025
Indian Institute of Technology (IIT), Kanpur (Ranked 4th in India**)**	**Kanpur, India**
Master of Science, Electrical Engineering - Image Processing, AI/ML (CGPA 3.7)	Jul 2022