**ADITYA V KALLAPPA**

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**OBJECTIVE**

Skilled Deep Learning Specialist with hands-on experience in **NLP**, **Computer Vision (CV)**, and **Generative AI**. Proven expertise in developing and deploying **Large Language Models (LLMs)**, custom tokenizers, and AI benchmarks. Adept at leveraging **PyTorch**, **CUDA**, and advanced **distributed training techniques** to deliver scalable, real-world solutions.

**TECHNICAL SKILLS**

**Languages:** Python, C/C++ (Basics)

**Tools & Libraries:** PyTorch, CUDA, NumPy, Pandas, HuggingFace Transformers, SLURM, Bash

**Key Expertise:** Machine Learning (ML), Deep Learning (DL), LLMs, CV, NLP, Generative AI, Distributed Training, Linux, PEFT(LoRA), CUDA

**WORK EXPERIENCE**

**Krutrim SI Designs Ltd., Bengaluru, KA, India**

**Data Scientist 2 July 2023 - Present**

* **Krutrim LLM Development**: Contributed to building India's first LLM trained from scratch.
  + Designed a custom tokenizer and managed data cleanup for 2.2 trillion tokens.
* **Moderation and Safety**: Worked on moderation systems, static RAG (Retrieval-Augmented Generation), and WebRAG for Krutrim Bot to ensure reliable outputs.
* **Krutrim-2 LLM**: Worked on continuous pretraining of Mistral-Nemo 12B model to expand support for Indian languages.
* **Model Evaluation**: Conducted rigorous evaluation of models on diverse benchmarks, ensuring performance and scalability across key metrics.

**ANI Technologies (Ola Cabs), Bengaluru, KA, India**

**Data Scientist July 2022 - June 2023**

* Applied **Deep Learning** across **CV**, **NLP**, **TTS**, and **LLM domains**.
* Key projects:
  + **Cell Defect Detection**: Built a detection system achieving **95% accuracy**.
  + **Traffic Sign Detection & Classification**: Delivered detection (~88%) and classification (~85%) models.

**PUBLICATIONS & RESEARCH**

## Kallappa, A.; Nagar, S. and Varma, G. (2023). FInC Flow: Fast and Invertible k × k Convolutions for Normalizing Flows. In Proceedings of the 18th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications - Volume 5: VISAPP, ISBN 978-989-758-634-7; ISSN 2184-4321, pages 338-348. DOI: 10.5220/001187660000341

## BharatBench: Comprehensive Multilingual Multimodal Evaluations of Foundation AI models for Indian Languages (2025). [KrutrimAI Team] Available at: <https://ai-labs.olakrutrim.com/static/Bharatbench-report-4thfeb.pdf?ref=tech.olakrutrim.com>

## Krutrim LLM(2024, Under Review). Kallappa et al. Model available at <https://huggingface.co/krutrim-ai-labs/Krutrim-1-instruct>

## Krutrim-2 LLM(2024, Under Review). Kallappa et al. Model available at <https://huggingface.co/krutrim-ai-labs/Krutrim-2-instruct>

**EDUCATION**

**Master of Science (By Research), Electronics and Communication Engineering CGPA: 8/10**

The International Institute of Information Technology – Hyderabad (IIIT H), Hyderabad, India **2019 – 2023**

* Defended Master’s Thesis titled “FInC Flow: Fast and Invertible k × k Convolutions for Normalizing Flows” where I have designed and implemented a fast CUDA kernel for invertible convolution

**Bachelor of Engineering, Electronics and Communication Engineering CGPA: 9.3/10**

BVB College of Engineering and Technology, Hubballi, KA, India  **2013 – 2017**

**ADDITIONAL INFORMATION**

* **Early IT Experience**: Prior professional experience in IT systems, developing foundational troubleshooting and reporting skills.
* **Personal Interests**: Avid chess enthusiast with a passion for analyzing and following games closely. Enthusiast of history and culture, with a deep interest in exploring diverse traditions and historical narratives.