

# SAIDINESH POLA

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## Experience

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### Infosys

June 2021 – Current

*Specialist Programmer*

*Bangalore, India*

- Contributed to a variety of POC projects covering reinforcement learning, computer vision, NLP, web scraping, and synthetic data generation. An Active participant of Hackathons to learn about new techniques and algorithms.
- Led ML projects along with Multi Billion parameters LLMs which include code generation models for infosys and few-shot anomaly detection using OPEN-CLIP + Grounding DINO. Created synthetic training data for llama2 rag application to improve the retriever accuracy of sentence transformer by 20%.
- Proficient in leveraging Docker and Kubernetes for deployment, and applying mathematical expertise when required.
- Participated and won multiple hackathons in deep learning and recently got 3rd in private leaderboard of persona-based commonsense dialog generation by SONY using mixture of GPT3.5 api and finetuned qlora phi-2 model.

### AICrowd

*Research Fellowship*

*Remote*

- Developed SOTA image classification model using DINOv2 pretrained weights for 60 snail species using unique species-geo level split along web application in collaboration with WHO, aimed at reducing diseases caused by consuming dangerous species.
- Contributing to a Cybersecurity Risk Assessment and Governance Q&A RAG application for the Global Fund, enhancing their cybersecurity measures and data protection.

## Education

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### Indian Institute of Technology, IIT Guwahati

June. 2019 – May 2021

*Communication Engineering, MTech*

**Paper:** Implementation of a new order-preserving Lossless Data Compression scheme to reduce overhead in a Novel Interdependent Joint Source and Channel Coding in wireless sensor networks

### National Institute of Technology, NIT Raipur

June. 2014 – May 2018

*Electronics and Communication Engineering, BTech*

## Technical Skills

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**Programming:** Python, SQL, C++, HTML/CSS, JavaScript, Data Structures and Algorithms

**Developer Tools:** Copilot, GCP, Postman, Angular, Spring Boot, PostgreSQL, Colab, VSCode, ComfyUI

**Technologies/Frameworks:** PyTorch, TensorFlow, Docker, Kubernetes, Consumer LLMs, Flask, Llama Index, Langchain, DSPy, PEFT

**Certifications/Courses:** CUDA using Python(Nvidia), Machine Learning, Deep Learning(coursera), Reinforcement Learning (Stanford), SQL, Optimizations(IITG), Gen-AI from Infosys(Diffusions and NLG LLMs), GCP, PySpark

## Projects

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### Neural MMO - massively multi-agent environment | MIT, NeurIPS24, PPO, MARL, LLM, CTCE

Jan 2024

- Coauthored a paper on NMMO and secured 3rd place in a notable NeurIPS24 Multi-Agent Reinforcement Learning competition organized by MIT. The solution pipeline includes communication mechanism, reward tuning and salesforce-Xgen-7B LLM for task embeddings of PPO's policy.

### Time complexity and Code evaluation RAG application with GPT/LLMs | RAG, CodeGen, LLamaIndex

Current

- Created a RAG application for infosys specialist programmer candidate selection that uses GPT 3.5-turbo to estimate time complexity and evaluation score based on context, best responses in each category, and average mean time which adds 5% credible candidates.

### Java code generation using GPT-J (6 billion LLM) | Transformers, LLM, TPU, Quantization

March 2022

- Utilized GPT-J (6 billion LLM) to generate Java code, a process fine-tuned for accuracy. The model was trained on input text and further refined using top Java repositories sourced from GitHub. This fine-tuning extended to both public GitHub repositories and internal ones within Infosys, leveraging TPUv3 for enhanced performance.

## Achievements

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### Hackathons

**Spring 2022 – Present**

*DL, ML, RL*

*Infosys, External*

- Won **3rd** place in NMMO reinforcement learning track for NeurIPS2024.
- Finished **2nd** in the NVIDIA's object tracking and detection competition on grocery products.
- Won **3rd** place in Infosys's RAI summit's security hackathon on NN attacks and defenses.
- Won **3rd** place in AMAZON's SUADD23 Mono Depth Estimation on drone images and presented my work at the German Conference on Pattern Recognition (GCPR23).
- Secured **3rd** place in private leader board of SONY's Commonsense Peacock Persona-based Dialogue Generation(Role Play).