

Aryasomayajula Ram Bharadwaj

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ABOUT

Versatile Backend Developer and ML Engineer with expertise in refactoring legacy codebases, implementing ML models, and strong DevOps knowledge. Skilled in multiple programming languages and passionate about AI alignment and safety.

EDUCATION

B.Tech Electronics and Communications

GMR Institute of Technology, Andhra Pradesh

2015 - 2019

PROFESSIONAL EXPERIENCE

Senior Developer at Innovation & Development Labs

Musigma Business Solutions, Bengaluru

2019 - Present

- Led development of multiple high-impact projects in LLM Trading, automated trading, and ML operationalization.
- Specialized in backend development, DevOps, and ML engineering across various domains.
- Received multiple recognitions including Impact Awards and Star Performer of the Team.

ML Alignment Theory Research Trainee

Stanford Existential Risk Initiative, Remote

May 2023 - July 2023

- Underwent training for research in AI alignment and Agency foundations under guidance of John Wentworth.

KEY PROJECTS

LLM Agent Platform

Team Lead, ML Engineer, Backend Developer

Dec 2023 - Present

- Designed and implemented a semi-autonomous data analysis platform powered by LLM Agents.
- Developed automatic prompt optimization strategies and integrated Retrieval-Augmented Generation (RAG) support.
- Maintained a customized fork of Microsoft's Autogen framework.
- Successfully deployed for two major clients, assisted client teams in creating usecases.

High Velocity Trading Platform

Team Lead, Backend Developer, DevOps

2021 - Dec 2023

- Refactored backend code and migrated deployment from bare-metal to Kubernetes.
- Implemented automated hyperparameter search for ARIMA models.
- Rewrote legacy trade-signal generation from R to Scala using Akka framework.
- Enabled near real-time metric calculation and portfolio visualization.

Next-Gen Model Operationalization Platform

Backend Developer

2019 - 2021

- Developed automatic retraining pipelines for image classification models.
- Designed and implemented Java microservices for creating and serving Jupyter notebooks.
- Engineered a microservice for deploying ML models in a DAG structure with canary and blue-green deployment strategies.
- Created dashboards for monitoring model and resource usage metrics.

Open Source Contributions

Ongoing

Individual Contributor

- Developed a framework for evaluating LLM-generated code in a sandboxed environment.
- Conducted experiments to evaluate LLMs finetuned on debates, implemented mechanism for generating synthetic debate transcripts.
- Benchmarked Mistral and Pythia models using LoRA fine-tuning on debate transcripts.

SKILLS

| | |
|---------------|---|
| Languages | Scala, Python, Java, R |
| ML Frameworks | PyTorch, JAX |
| DevOps | Kubernetes, Docker-swarm |
| Frameworks | Akka, Spring-boot |
| AI/ML | LLM Fine-tuning, Neural Network Architecture Implementation |

AWARDS & RECOGNITIONS

AI Alignment Awards

July 2023

www.alignmentawards.com

Winning entry for the "goal misgeneralization" track research proposal.

Honorable Mention

Mar 2022

Alignment Research Center

Recognition for proposal in the ELK (Eliciting Latent Knowledge) competition.

Impact Award

October 2022, December 2023

Musigma Business Solutions

Recognized for self-engagement, DevOps skills, and designing the LLM-Agent conversation platform.

Star Performer of the Team

2019 to 2023

Musigma Business Solutions

Received the SPOT award six times for exceptional contributions.

Bronze Position

Feb 2021

Build-on-Redis Hackathon

Built a natural-language semantic code-search using codeBERT's embeddings.