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   `2015 - 2019`
GMR Institute of Technology, Andhra Pradesh

PROFESSIONAL EXPERIENCE

Senior Developer at Innovation & Development Labs   `2019 - Present`
Musigma Business Solutions, Bengaluru

- Led development of multiple high-impact projects in LLM operationalization, automated trading, and MLOps.
- 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   `May 2023 - July 2023`
Stanford Existential Risk Initiative, Remote

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

KEY PROJECTS

LLM Agent Platform   Dec 2023 - Present
Team Lead, ML Engineer, Backend Developer

- 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   2021 - Dec 2023
Team Lead, Backend Developer, DevOps

- 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   2019 - 2021
Backend Developer

- 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.