SIVAKUMAR RAMAKRISHNAN

APPLIED DEEP LEARNING / NLP

Boulder, Colorado | +1 (303) 520-8588 | **sivakumar.ramakrishnan@colorado.edu** | **LinkedIn** | **GitHub** | **Kaggle**

Mathematics-driven deep learning developer with a passion for applying AI to real-world problems.

PROFESSIONAL EXPERIENCE

ZOHO | DATA SCIENTIST | May 2022 – July 2024

- **Advanced RAG Architecture:** Developed and scaled an advanced Retrieval-Augmented Generation (RAG) system using VLLM, supporting millions of users with multi-modal input processing and reduced hallucinations.
- Implemented diverse AI solutions, including **customer assistance prediction**, **phishing detection** with *90%* accuracy, generative AI tasks like FAQ Generation, reply mail generation, and summary generation.
- **Multimodality Research:** Engaged in foundational work on multimodal AI systems.
- **Mentorship:** Guided, and mentored interns to full-time employees.

ZOHO | TRAINEE | Sep 2021 – Apr 2022

- Foundational NLP research ranging from rule-based methodologies to implementation of seq-to-seq architectures.
- Developed a Java-based e-commerce web application with RESTful APIs using JAX-RS.

SIEMENS | INTERN | Apr 2021

- Gained hands-on experience with advanced medical imaging systems, principle components of PET-CT, MRI, and CT.

PROJECTS

- **Aerial Depth Mapping** • University of Colorado Boulder • https://praisecu.github.io/research-areas • Sep 2024 – Current
  Deep learning models architecturally optimized for edge devices, enabling drones to estimate depth more efficiently.

- **Autonomous Ground Vehicle** • Sri Sai Ram Engineering College • November 2019 - February 2022
  Developed AGV bot with lane & object detection, and navigation using Raspberry Pi, Jetson Nano, and YOLOv4.

- **Edge AIoT for Product inspection** • Sri Sai Ram Engineering College • **Project Link** • Feb 2021 – May 2021
  Developed CNN and SVM models for defective microchip identification (98% accuracy) using AWS DynamoDB, Heroku, Flask, and Raspberry Pi 4.

OPEN-SOURCE CONTRIBUTIONS

- **Mistral Optimization -** Contributed to Look Ahead Decoder Mechanism for Mistral Architecture.
- **Toxicity Model -** Open-sourced RoBERTa base model for toxicity classification on HuggingFace.
- **Rating Prediction Model -** Open sourced **winning Kaggle Goodreads Finetuned T5-Base model** on GitHub.

CERTIFICATIONS

- Machine Learning Specialization • Deep Learning Specialization • Natural Language Processing Specialization

KEY SKILLS

- **Programming**: Python, Java, R, C, HTML, CSS, MATLAB, SQL, Git, Alembic
- **Machine Learning**: Deep Learning, Natural Language Processing, PyTorch
- **Soft Skills**: Communication, Presentation, Leadership

EDUCATION

Master of Science in Data Science | Aug 2024 - Current

• University of Colorado Boulder

Bachelor of Engineering in Electronics and Communication Engineering | Aug 2018 – Jun 2022

• Sri Sai Ram Engineering College • 3.65 / 4.00