Goutham **Ramakrishnan**

📍 Bengaluru, India   @ goutham7r@gmail.com   % goutham7r.github.io   in goutham-ramakrishnan

Experience

Amazon AGI
Applied Scientist - II
📍 Bengaluru, India
📅 Feb'25 – Present

- Building **multimodal LLMs** with conversational and agentic capabilities for **edge devices**.

AWS Neuron, Amazon Web Services
Machine Learning Engineer - II
📍 Cupertino, CA
📅 Sep'23 – Jan'25

- Developed fundamental building blocks and specialized algorithms for efficient training and inference of **Mixture-of-Experts** models on **Trainium** ML accelerators.
- Enabled inference of Llama-3.2 multimodal and multi-node MoE models on Neuron.

Health at Scale Corporation
Senior Machine Learning Software Engineer
📍 San Jose, CA
📅 Jun'20 – Aug'23

- Created a **new product** which provides **actionable clinical insights** to high-risk patients.
- Built **modular and efficient framework** for analyzing large scale healthcare data.
- Contributed to **end-to-end design** and deployment of multiple customer-facing apps.
- Prototyped **novel ML models** for detecting underdiagnosis of chronic diseases.

Microsoft Research Cambridge
Researcher Intern
📍 United Kingdom
📅 Jun – Sep 2019

American Express
Data Analyst Intern
📍 Gurugram, India
📅 May – Jul 2017

Publications (1000+ citations, h-index: 7)

BAE: BERT-based Adversarial Examples for Text Classification
Siddhant Garg*, *Goutham Ramakrishnan**
Conference on Empirical Methods in NLP (EMNLP), 2020
% Link

Synthesizing Action Sequences for Modifying Model Decisions
*Goutham Ramakrishnan**, Yun Chan Lee*, Aws Albarghouthi
Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI), 2020
% Link

Semantic Robustness of Models of Source Code
J Henkel*, *G Ramakrishnan**, Z Wang, A Albarghouthi, S Jha, T Reps
Conference on Software Analysis, Evolution and Reengineering (SANER), 2022
% Link

Backdoors in Neural Models of Source Code
Goutham Ramakrishnan, Aws Albarghouthi
International Conference on Pattern Recognition (ICPR), 2022
% Link

Towards Robustness to Label Noise in Text Classification
Siddhant Garg*, *Goutham Ramakrishnan**, Varun Thumbe*
Conference on Information and Knowledge Management (CIKM), 2021
% Link

Fast GPU-Enabled Color Normalization for Digital Pathology
Deepak Anand*, *Goutham Ramakrishnan**, Amit Sethi
Conference on Systems, Signals and Image Processing (IWSSIP), 2019
% Link

Interpretable Inference Graphs for Face Recognition
Siddhant Garg*, *Goutham Ramakrishnan**, Varun Thumbe
Conference on Image and Vision Computing New Zealand (IVCNZ), 2019
% Link

Projects

Towards Compliant Data Management Systems for Healthcare ML
Goutham Ramakrishnan, Aditya Nori, Hannah Murfet, Pashmina Cameron
% Preprint

Advances in Quantum Deep Learning: An Overview
Siddhant Garg*, *Goutham Ramakrishnan**
% Preprint

*Equal Contribution by Authors

Technical Skills

LLM Training & Inference   PyTorch   XLA   PySpark   Python   Bash   Git   LaTeX   Django   SQL

Education

M.S in Computer Sciences
University of Wisconsin–Madison
📅 Aug 2018 - May 2020   GPA: 4.0/4.0

B.Tech in Electrical Engineering
(Minor in Computer Science & Engineering)
Indian Institute of Technology Bombay
📅 Jul 2014 - May 2018   GPA: 9.29/10.0

Coursework

Machine Learning
Reinforcement Learning
Mathematical Foundations of ML
Security and Privacy for ML
Data Management for ML
Deep Learning in Computer Vision
Natural Language Processing
Data Structures and Algorithms
Operating Systems
Nonlinear Optimization

Achievements

- **Patent Pending:**
  Indirect Masking for Attention Models
- **Academic Service:** Reviewer for
  ● EMNLP'21, EMNLP'22, AMLC'25
  ● Alg. Recourse Workshop at ICML'21
- **Mentored** an MLE intern in Summer'22.
- **Winner** of Microsoft-UK Hackathon (Summer'19), for building an emissions calculator on Bing Maps.
- Institute Student Mentor, IIT-Bombay (Apr 2017 - May 2018)
- Institute Football Convener, IIT-Bombay (May 2015 - April 2016)
- Silver Medalist in Soccer at the 51st Inter-IIT Sports Meet, Kanpur (2016)
- All India Rank 959 in JEE Advanced 2014

Other

- **Teaching Assistant:**
  – CS 301 (Data Programming)
    Fall 2018, UW-Madison
  – MA 207 (Differential Equations)
    Fall 2016, IIT-Bombay
- **Volunteering:** Tutored underprivileged students at Abhyasika, Mumbai