Ramaneswaran S

ramans@umd.edu ramaneswaran.github.io ramaneswaran ramaneswaran

EDUCATION

University of Maryland, College Park **2024 – 2026**
*M.S. in Computer Science, Advised by **Prof. Dinesh Manocha*** *Maryland, USA*

Vellore Institute Of Technology University **2018 – 2022**
*Bachelor of Technology in Information Technology - GPA **9.04**/10* *Vellore, Tamil Nadu*

PROFESSIONAL EXPERIENCE

NVIDIA **Bengaluru, Karnataka**
Solution Architect - Generative AI *May 2022 – Aug 2024*

- Worked with a wide range of customers, helping them develop and deploy LLM based solutions. [1] [2] [3] [4]
- Worked with Korea Telecom to build Korean foundational language models. [Blog Post]
- Led the development of SOTA code-mixed translation models and contributed to SOTA code-mixed ASR models for Indian languages.

RESEARCH EXPERIENCE

Laboratory of Computational Social Science **New Delhi, Delhi**
Research Intern *Jan 2021 – Jun 2023*

- Worked under the supervision of Prof. Tanmoy Chakraborty and Prof. Md Shad Akhtar in the areas of multimodality and conversational dialogs. Research published at **ACL, EMNLP**.

TCS Research & Innovation Lab **Pune, Maharashtra**
Research Intern *Dec 2021 – May 2022*

- Completed B.Tech thesis under the supervision of Dr. Vikram Jamwal in the area of controllable image generation. Research published at **WACV** and planned implementation at Munch Museum, Norway. [Press Release]

GAMMA Labs, University of Maryland **College Park, Maryland**
Research Assistant *Jan 2023 – Present*

- Working under the supervision of Prof. Dinesh Manocha in the synthetic data generation and audio processing. Research published at **ICLR, ICML, Interspeech**.

INTERNSHIP EXPERIENCE

Flipkart **Bengaluru, Karnataka**
SDE Intern *Jun 2021 – July 2021*

- Developed microservices in Spring Boot for a funnel view dashboard aimed at enhancing warehouse activity diagnostics.
- This dashboard led to a significant reduction in on-call diagnosis time, decreasing from 10 minutes to under 1 minute.

Samsung Research **Bengaluru, Karnataka**
Machine Learning Intern *Oct 2020 – Mar 2021*

- Developed a generalizable deep learning pipeline with BERT and T5 models for dialogue state tracking.
- This approach achieved a notable intent accuracy of 93% and a slot accuracy of 82%.

Omdena **Palo Alto, California - Remote**
Machine Learning Engineer *Aug 2020 – Oct 2020*

- Collaborated with a global team of 50 engineers on a project for Save The Children.
- Developed a novel risk predictor for online conversations using LSTM models. [Blog Post]
- Built a retrieval augmented extractive question answering system for researchers at Save The Children. [Blog Post]

SeaPort AI **Chennai, Tamil Nadu**
Machine Learning Intern *May 2019 – June 2019*

- Developed a customizable OCR pipeline using PyTorch.
- Developed FastAPI based MLOps backend to deploy OCR framework.

SELECTED PUBLICATIONS

- MEMEX: Detecting Explanatory Evidence for Memes via Knowledge-Enriched Contextualization
  Shivam Sharma, Ramaneswaran S, Udit Arora, Md. Shad Akhtar, Tanmoy Chakraborty
  ACL 2023
- From Multilingual Complexity to Emotional Clarity: Leveraging Commonsense to Unveil Emotions in Code-Mixed Dialogues
  Shivani Kumar, Ramaneswaran S, Md. Shad Akhtar, Tanmoy Chakraborty
  EMNLP 2023
- MMER: Multimodal Multi-task Learning for Speech Emotion Recognition
  Sreyan Ghosh, Utkarsh Tyagi, Ramaneswaran S, Harshvardhan Srivastava, Dinesh Manocha
  Interspeech 2023
- Composite Diffusion: whole $\geq \sum$ parts
  Vikram Jamwal, Ramaneswaran S
  WACV 2024
- A Closer Look at the Limitations of Instruction Tuning
  Sreyan Ghosh, Chandra Kiran Evuru, Sonal Kumar, Ramaneswaran S et al.
  ICML 2024
- CompA: Addressing the Gap in Compositional Reasoning in Audio-Language Models
  Sreyan Ghosh, Ashish Seth, Sonal Kumar, Utkarsh Tyagi, Chandra Kiran Ramaneswaran S et al
  ICLR 2024
- Span Extraction Aided Improved Code-mixed Sentiment Classification
  Ramaneswaran S, Sean Benhur, Sreyan Ghosh
  WNUT @ COLING 2022

TECHNICAL SKILLS

Languages: (Highly Proficient) Python, C++ (Moderate) JavaScript, Java, SQL
Libraries & Frameworks: Pytorch, NeMo, TensorRT-LLM, NeMo-Aligner, Transformers, CUDA
Certifications and Training:

- Coursera - Deep Learning Specialization
- Coursera - Machine Learning
- Data Science Methodology
- Transformer Based NLP - NVIDIA DLI

PROJECTS

- **Argos** – Highly optimized (< 100ms latency) ML-powered Telegram bot to prevent notification pollution.
- **Quicktext** – An extremely quick (< 7 LOC) library to train text classification models; built on top of sPacy.
- **Picturate** – A foundry offering modular and extensible components for building GAN based text-to-image models.
- **Perception** – A comprehensive reference implementation for large-scale unsupervised image search.

ACHIEVEMENTS

- **Winner** of VIT Hack - Open Innovation Track
- **Winner** of VIT Hack - AWS Educate Track
- **Winner** of Sharechat IndoML Datathon - Multilingual Absusive Comment Identification
- **Ranked 19/1000** in Cascade Cup Data Analytics Competition

COMMUNITY SERVICE

- **Reviewer for:** EMNLP 2023, 2024, COLM 2024 DravidianLangTech @ ACL 2023
- Technical Member of Google Developers Group, VIT. Worked on several open-source projects and presented lectures on machine learning. [Lecture]