Ramaneswaran S

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EDUCATION

University of Maryland, College Park **2024 – 2026**
M.S. in Computer Science *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%.

SELECTED PUBLICATIONS

- Do Audio-Language Models Understand Linguistic Variations?
  Ramaneswaran S*, Sonal Kumar*, Hemant Giri*, et al
  Under Review
- PAT: Parameter-Free Audio-Text Aligner to Boost Zero-Shot Audio Classification
  Ashish Seth*, Ramaneswaran S*, Sonal Kumar*, Sreyan Ghosh, Dinesh Manocha
  Under Review

- EH-MAM: Easy-to-Hard Masked Acoustic Modeling for Self-Supervised Speech Representation Learning
  Ashish Seth*, Ramaneswaran S*, S Sakshi, Sonal Kumar, Sreyan Ghosh, Dinesh Manocha
  EMNLP 2024
- 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

TECHNICAL SKILLS

Languages: (Highly Proficient) Python, C++ (Moderate) JavaScript, Java, SQL
Libraries & Frameworks: PyTorch, Transformers, CUDA, VLLM, S3PRL
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:** ARR 2024, 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]