# Sathyanarayanan Ramamoorthy

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## EDUCATION

Carnegie Mellon University - School of Computer Science (MS)

Master of Computational Data Science at Language Technologies Institute (LTI) - (GPA: 3.95)

Indian Institute of Information Technology (B.Tech)

Bachelor of Technology in Computer Science and Engineering (CGPA: 9.13/10)

Pittsburgh, USA

08/22 - 05/24

Sricity, India

07/18 - 06/22

#### INDUSTRY EXPERIENCE

# Software Engineer - Full Time

04/25 - Present

Google, Search Ads Infrastructure

Mountain View, CA, USA

• Working in the Search Ads organization.

## Machine Learning Engineer - Full Time

01/25 - 03/25

JPMorgan & Chase, Customer Banking Personalization & Interaction

Palo Alto, CA, USA

• Worked on personalizing the Chase Banking Application.

## Applied Scientist Intern - Internship

05/23 - 08/23

Amazon Alexa, Invocation Science

Cambridge, MA, USA

- Part of the wakeword invocation team under the Amazon Alexa Perceptual Technologies Organization.
- Performed data augmentation with synthetic data using **generative methods** to support speech technology development, particularly with the help of Large Language Models (LLMs), ASR and TTS Models.
- Implemented a pipeline for synthesis and trained, researched, evaluated and analyzed wakeword models.
- Improved the existing wakeword baseline model performance by 28%.

# ACADEMIC/RESEARCH EXPERIENCE (SCHOLAR PROFILE)

### Research Associate - Full Time

01/24 - 12/24

Carnegie Mellon University at LTI, Advisor: Prof. Graham Neubig

Pittsburgh, PA, USA

- Worked on Multimodal Multilingual language-agnostic entity linking problems.
- Developed a system, with dataset, baseline methods and work under review at TACL 2024.
- Researched Vision-Language diffusion models through image transcreation, co-authored work accepted at EMNLP Main 2024 (Link) and got best paper award (Link).
- Contributed to the open-source multilingual multicultural multimodal LLM project called Pangea (Link)

## Research Intern - Internship

01/22 - 06/22

Artificial Intelligence Institute at University of South Carolina

Columbia, USA

- Developed a **BERT** based deep learning approach, for multimodal joint embeddings.
- Worked on a GPT-based medical chatbot and enhanced its capability through context-driven learning.
- Achieved this through context-driven learning using Knowledge Graphs, Coreference Resolution, NER.

#### Research Intern - Internship

06/21 - 12/21

 $Wipro\ Artificial\ Intelligence\ Labs$ 

Bangalore, India

- Proposed an approach to generate multimodal vision-text joint embeddings using transformer models.
- Achieved SOTA on meme emotion analysis task and presented the work at AAAI 2022 (Link).
- Was an Organizing Committee Coordinator for the workshop, DE-FACTIFY, co-located at AAAI 2022.

## SELECT PUBLICATIONS

- Nethra Gunti, Sathyanarayanan Ramamoorthy, Parth Patwa and Amitava Das, "Memotion Analysis through the Lens of Joint Embedding (Student Abstract)", In Proceedings of the AAAI Conference on Artificial Intelligence, 2022.
- Simran Khanuja, Sathyanarayanan Ramamoorthy, Yueqi Song, Graham Neubig,
   "An image speaks a thousand words, but can everyone listen? On image transcreation for cultural relevance", In Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing (Best Paper Award at the conference)