

ADITYA ANANTHARAMAN

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EDUCATION

Carnegie Mellon University (CMU), School of Computer Science Master of Computational Data Science (MCDS) <i>GPA: 4.11/4.33</i>	Pittsburgh, USA 2019 - 2020
National Institute of Technology Karnataka, Surathkal (NITK) Bachelor of Technology Information Technology <i>GPA: 9.54/10, Class Rank: 5/103</i>	Surathkal, India 2015 - 2019

EXPERIENCE

Applied Scientist II, Amazon • Led integration of an automated LLM-based eval pipeline to measure and guide reduction of brand-unsafe ad supply. • Designed and deployed Mixture of Experts (MoE)-based Behavioral Foundation Models pre-trained on customer behavior tasks to boost click-through rate (CTR) prediction in e-commerce advertisement, achieving a 350x model compression via cross-architecture distillation for deployment in low-latency environments. • Developed a novel method called Reverse Distillation (RD) that enables training large encoder-based transformer models (upto 50 billion parameters) for noisy tasks like CTR prediction by leveraging knowledge from smaller models. • Applied LoRA-based parameter-efficient fine-tuning to adapt LLMs for product retrieval and ranking applications.	Feb 2021 - Present London, GB
Applied Scientist Intern, Amazon • Developed co-teaching-based and BERT-based models to link context-of-use entities with products to improve search experience. Proposed approaches improved both precision & coverage of links compared to lexical matching.	May 2020 - Aug 2020 Seattle, USA
Research Intern, IIT-Hyderabad • Developed a novel multi-space model for Zero-Shot Object Detection (ZSD), achieving a 14% increase in mean average precision (mAP) compared to the state-of-the-art on Pascal VOC.	Aug 2018 - Dec 2018 Hyderabad, India
Software Engineering Intern, Microsoft • Built a cluster management solution for the Azure Networking team, providing streamlined management, monitoring and usage of test clusters in the team.	May 2018 - July 2018 Hyderabad, India

SELECTED PUBLICATIONS

- J Zhang, A Muhamed, **Aditya Anantharaman**, G Wang, C Chen, K Zhong, Q Cui, Y Xu, B Zeng, T Chilimbi, Y Chen “ReAugKD: Retrieval-Augmented Knowledge Distillation For Pre-trained Language Models”, ACL 2023 (Oral) [\[Paper\]](#) [\[Blog\]](#)
- M Yang*, **Aditya Anantharaman***, D C Robert*, Z Kitowski* “Graph Relation Transformer: Incorporating pairwise object features into the Transformer architecture”, Visual QA Workshop, CVPR 2021 [\[Paper\]](#)
- D Gupta, **Aditya Anantharaman**, N Mamgain, S Kamath, V Balasubramanian, C V Jawahar “A Multi-Space Approach to Zero-Shot Object Detection”, WACV 2020 [\[Paper\]](#)
- M Vikram, **Aditya Anantharaman**, Suhas BS, S Kamath, “An Approach for Multimodal Medical Image Retrieval using Latent Dirichlet Allocation”, India KDD CoDS-COMAD 2019 (Oral). Short paper at AI for Social Good Workshop, NeurIPS 2018 [\[Paper\]](#) [\[Poster\]](#)

ACADEMIC PROJECTS

Graph Relation Transformer for Text Visual Question Answering (Text-VQA) • Proposed a multimodal Graph Relation Transformer which leverages transformer layers for graph attention computation with rich edge and node information for the Text-VQA task.	Paper Fall 2020
Fact Extraction and Verification (FEVER shared task) • Implemented a BERT-based model with multi-task and multi-hop reasoning enhancements to strengthen the claim verification module which led to a 2% improvement in label accuracy.	Github Spring 2020

SKILLS

Programming Languages:	Python, C++, C, Java, MySQL
Deep Learning:	PyTorch, TensorFlow, Deepspeed
Cloud Platforms and Tools:	AWS, Azure, Google Cloud Platform, Hadoop MapReduce, PySpark

ACADEMIC SERVICE

Reviewer: ACL 2024, EMNLP 2024, ES-FoMo-II Workshop ICML 2024