ADITYA ANANTHARAMAN

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Education

Carnegie Mellon University (CMU), School of Computer Science — Pittsburgh, PA
Master of Computational Data Science (MCDS) | *GPA:* 4.11/4.33 — December 2020
Relevant Coursework: Machine Learning, Deep Learning, Neural Networks for NLP, Machine Learning for Large Datasets, Multimodal Machine Learning, Cloud Computing, Computer Systems, Interactive Data Science

National Institute of Technology Karnataka, Surathkal (NITK) — Surathkal, India
Bachelor of Technology Information Technology | *GPA:* 9.54/10, *Class Rank:* 5/103 — May 2019
Relevant Coursework: Linear Algebra and Matrices, Soft Computing, Design and Analysis of Algorithms, Computer Vision, Information Retrieval, Advanced Computer Networks, Time Series Analysis

Experience

Amazon — Seattle, WA
Applied Scientist Intern, Amazon Search — May 2020 - Aug 2020
- Developed deep learning models to link context-of-use entities with products to improve search experience.
- Proposed BERT-based and co-teaching approaches to improve precision and coverage of links compared to lexical matching while also overcoming noisy labels in training data.
- Work accepted at the Multi-faceted Understanding of Products and Shopper Intent Workshop at AMLC 2020.

Indian Institute of Technology, Hyderabad (IITH) — Hyderabad, India
Research Intern at Visual Learning and Intelligence (VIGIL) lab — August 2018 - December 2018
- Developed a novel Multi-Space model for Zero-Shot Object Detection (ZSD).
- Leveraged both semantic and visual spaces and introduced a cross-modal consistency loss to alleviate hubness.
- Outperformed the state-of-the-art in ZSD on Pascal VOC by 14% in terms of mAP.

Microsoft — Hyderabad, India
Software Engineering Intern, Azure Networking — May 2018 - July 2018
- Developed a plug and play service for effective management, monitoring and usage of Test clusters.
- Facilitated easy locking and unlocking of clusters and devised health checks for seamless maintenance of clusters.

Selected Publications

- D Gupta, **Aditya Anantharaman**, N Mamgain, S Kamath, V Balasubramanian, C V Jawahar *"A Multi-Space Approach to Zero-Shot Object Detection"*, Winter Conference on Applications of Computer Vision (WACV 2020)
- Mandikal Vikram, **Aditya Anantharaman**, Suhas B S and Sowmya Kamath, *"An Approach for Multimodal Medical Image Retrieval using Latent Dirichlet Allocation"*, India KDD CoDS-COMAD 2019 (Oral Presentation). Short version accepted at AI for Social Good Workshop, NeurIPS 2018.

Academic Projects

Graph Relation Transformer for Text Visual Question Answering (Text-VQA) — Fall 2020
- Proposed a multimodal Graph Relation Transformer which leverages transformer layers for graph attention computation with rich edge and node information for the task of Text-VQA.
- Proposed model improved the spatial reasoning between image objects compared to previous approaches.

End-to-End 2D to 3D Video Conversion — Github | Spring 2020
- Implemented Deep-3D, a deep learning model which combines information from multiple levels to estimate depth.
- Extended Deep-3D using monocular depth estimation and segmentation masks from Mask-RCNN.
- Proposed novel early and late fusion techniques which outperformed Deep-3D on the Inria-3D movie dataset.

Fact Extraction and Verification (FEVER shared task) — Github | Spring 2020
- Implemented a BERT-based model and strengthened claim verification module using Multi-Task Deep Neural Networks (MT-DNN) and Stochastic Answer Networks (SAN) in addition to multi-hop evidence reasoning.
- Achieved a 2% improvement in label accuracy compared to previous BERT-based approach due to the improved claim verification module.

Skills

Languages and Scripts:	C++, C, Python, Java, C#, HTML, CSS, Javascript, MySQL
Deep Learning Frameworks:	PyTorch, TensorFlow
Cloud Platforms and Tools:	AWS, Azure, Google Cloud Platform, Hadoop MapReduce, Spark