# ADITYA ANANTHARAMAN

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## Education

**Carnegie Mellon University (CMU), School of Computer Science** — Pittsburgh, PA
Master of Computational Data Science (MCDS) | *GPA:* 4.08/4.33 — December 2020
*Relevant Coursework:* Machine Learning, Cloud Computing, Deep Learning, Neural Networks for NLP, Machine Learning for Large Datasets, 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
- Working on using deep learning models to link context-of-use entities with products to improve search experience.

**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. Work accepted at WACV 2020.

**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

**End-to-End 2D to 3D Video Conversion** | CMU — 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 and outperformed Deep-3D on Inria-3D movie dataset.

**Fact Extraction and Verification (FEVER shared task)** | CMU — Spring 2020
- Developed an end-to-end model for FEVER to perform document retrieval, sentence selection and claim verification.
- 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.
- Proposed approach outperforms previously proposed BERT-Large model using BERT-Base in terms of label accuracy.

**Semi-Supervised Clustering in Cellular Cryo-Electron Tomography** | CMU — Spring 2020
- Proposed a Semi-supervised clustering approach with K-means Regularizer (SKR) which improves on unsupervised approaches by using a small amount of labelled data.
- Proposed approach (SKR) outperforms state-of-the-art semi-supervised method in Cryo-Electron Tomography.

## Skills

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