

Vamshi Teja

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EDUCATION

- **Indian Institute of Technology Hyderabad** Hyderabad, India
Bachelor of Technology in Electrical and Computer Science Engineering; GPA: 9.14/10 Aug. 2015 – May. 2019
- **Narayana Junior College** Hyderabad, India
Senior Secondary School, Telangana Board; 98.5% June. 2013 – May. 2015
- **Keshava Reddy Concept School** Hyderabad, India
Secondary School, Andhra Pradesh Board; GPA: 9.7/10 June. 2012 – May. 2013

PROFESSIONAL EXPERIENCE

- **RCAST, The University of Tokyo** Tokyo, Japan
Research Intern Under Dr. Kumiko Tanaka-Ishii July. 2018
 - Worked on analyzing evaluation of Language Models(LMs) using Neural Language Models.
 - Used state-of-the-art Neural LMs to evaluate LMs spanning all performance levels.
 - Arrived at conclusions to effectively use this criterion. *Project presentation*
- **Philips Innovation Campus** Bangalore, India
Summer Internship, Manager: Dr. Sunil Kumar Vuppala May. 2018 - June. 2018
 - Worked on unsupervised classification using Generative Adversarial Networks(GAN's) on Medical Images.
 - Able to extract linearly separable features on a Limited Breast Cancer(Mammography) Dataset.
 - Traditional Clustering on these features performed on par with supervised approaches.
- **Mobiliya(A Quest Global Company)** Bangalore, India
Summer Internship, Manager: Raghu Sesha Iyengar June. 2017-July. 2017
 - Worked on Facial Emotion Recognition from videos using CNNs and RNNs.
 - Implemented Hierarchical Attention Networks on IMDB Review Dataset for scoring reviews.
 - Worked on synthesis of Images from text descriptions(Text-to-Img) using GANs.
- **GE Appliances** Hyderabad, India
UT Austin & IITH - Industrial Project June. 2016 - July. 2016
 - As a part of Advanced Embedded Systems course we did our Industrial project with GE. Worked on making GE Appliances Smart(Refrigerators, Washing Machine,) by connecting them over Internet.
 - Worked with HTTP and MQTT protocols using raspberry pi(as local server) as a local server.

PUBLICATIONS

- Joseph K J, **Vamshi Teja R**, Krishnakant Singh, V. Balasubramanian, *Submodular Batch Selection for Training Deep Neural Networks*, Proceedings of International Joint Conference on Artificial Intelligence (IJCAI19), Aug 2019.
- **Vamshi Teja R**, Shanmukh Reddy Manne, Abhilash Goud, Mohammed Abdul Rasheed, Kunal K Dansingani, Jay Chhablani, Kiran Kumar Vupparaboina, Soumya Jana, *Classification and Quantification of Retinal Cysts in OCT B-Scans: Efficacy of Machine Learning Methods*, Proceedings of IEEE International Engineering in Medicine and Biology Conference (EMBC'19), July 2019.

ACADEMIC PROJECTS

- **SubModular Data Loader** [Project Report](#)
Under Dr. Vineeth N Balasubramanian, Dept of CSE, IITH. October. 2018 - Present
 - Built an optimized Submodular Data Loader(SMDL) for mini-batch selection using Distributed Lazier than Lazy Greedy algorithm for subset selection using submodular score function.
 - Beaten SGD with Random sampling on CIFAR and SVHN datasets for Image Classification Task.

- **Disentanglement using Factor-VAE for Better Taskonomy** *August. 2018 - November. 2018*
Under Dr. Vineeth N Balasubramanian, Dept of CSE, IITH
 - Goal is to solve a set of visual tasks without explicitly training all of them. Came up with a novel way to perform task-transfer reducing computational complexity as compared to Taskonomy-Original Approach.
 - Achieved state of the art classification results on SVHN and CIFAR10 datasets using our architecture in the process.
- **Classification and Quantification of SRF/PED from OCT Scans** *Project Report*
Under Dr.Soumya Jana, Dept of EE, IITH. (Submitted to EMBC 2019) *Jan. 2018 - April. 2018*
 - The objective is to detect and quantify retinal-fluid based disorders to assist ophthalmologists. Developed a two-step approach, detection followed by segmentation.
 - Used Ensemble Methods for classification and deep learning methods for segmentation. Achieved dice score of 0.92 and could detect even small fluid regions.
- **Recommendation Systems using deep learning** *January. 2018 - April. 2018*
Under Dr. Srijith P.K, Dept of CSE, IITH
 - Built music recommendation engine where user histories are modeled as sessions containing (begin time, end time, activities) tuples.
 - Used techniques from survival analysis and LSTM networks. Improved Mean Absolute Error by 8%.
- **Land Cover Segmentation from High Resolution Satellite Images** *Project Presentation*
Deep Learning course Project *March. 2018 - April. 2018*
 - Studied performance of state-of-the-art semantic-segmentation models on patches of Satellite Images(due to computational constraints).
 - Achieved the best performance with modified DeepLab-v3 architecture. Achieved a dice score of 0.68 - one of the top scores in the CVPR18-Workshop competition.
- **Finding the Right Social Media for Questions** *Project Presentation*
Data Mining Course project *March. 2018 - April. 2018*
 - Given a query, the goal is to redirect to the right social media site which can answer the query.
 - We followed a three-step approach which involves modeling of query, site followed by ranking.
- **Face Emotion Recognition** *Project Presentation*
Under Dr. Sumohana Channappayya, Dept of EE, IITH *March. 2017 - April. 2017*
 - Explored several filters based and ML/DL approaches. Achieved best results with CNNs.
 - Fine-tuning pre-trained networks trained on Imagenet with FER2013 dataset gave results on par with CNN's(trained from scratch). Best accuracy we achieved is 55%.
- **Theft Detection** *Oct. 2016 - Dec. 2016*
Under Dr. Siva Vanjari, Dept of EE, IITH
 - Developed an application that alerts if any motion is detected in a room and sends the picture to Dropbox.
 - Used background subtraction algorithm and significantly increased fps by exploiting multithreading for capturing and processing of images. Able to stream live video to localhost.

TECHNICAL SKILLS

- **Languages:** Python, C++, C, PostgreSQL, Assembly, \LaTeX
- **Softwares and Packages:** Tensorflow, PyTorch, Keras, OpenCV, GPy, Matlab, Caffe, Modelsim, Arduino, Raspberry Pi, TM4C Launchpad, Microsoft Office
- **Operating Systems:** Ubuntu, Windows, Mac OSx

ACHIEVEMENTS

- Our Team Secured 6th position globally in **IEEE VIP-CUP** on Lung Cancer Segmentation.
- Selected for **Sakura Science Program** by Japanese Government.
- Secured 32nd rank in **McKinsey Analytics Hackathon** out of around 3k participants.
- Secured AIR 3925 in IIT-JEE 2015, AIR 1541 in JEE-MAINS 2015 and State Rank 521 in TS-EAMCET 2015.
- Received **RAJYAPURASKAR SCOUT** Award in 2010.

POSITIONS OF RESPONSIBILITY

- **Teaching Assistant** for Matrix Analysis, Electric Circuits, Magnetic Circuits, Device Physics.
- **Sunshine Mentor** in sophomore year for freshmen students.
- Core-member of Lambda club(Development club of IITH).
- Active NSS Volunteer.

REFERENCES

- Available on request.