R Vamshi Teja

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Education

- **Indian Institute of Technology, Hyderabad** — Hyderabad
  B.Tech in Electrical and Computer Science Engineering, ***CGPA- 8.99(EE), 8.68(CSE)*** — *2015 - Present*
- **Narayana Junior College** — Hyderabad
  Senior Secondary Examination, Telangana Board, ***Score- 98.5%*** — *2013 - 2015*
- **Keshava Reddy Concept School** — Hyderabad
  Secondary Examination, ***GPA- 9.7/10*** — *2013*

Work Experience

- **Deep Learning Internship** — Bangalore
  Mobiliya, India — *June. 2017 – July. 2017*
  - I worked on Facial Emotion Recognition from videos using CNN's and RNN's.
  - I worked on implementing Hierarchical Attention Networks on IMDB Review Dataset for scoring reviews.
  - I also worked on synthesis of Images from text descriptions using GAN's.
- **Advanced Embedded Systems - Industrial Project** — Hyderabad
  GE Appliances, India — *June. 2016 – July. 2016*
  - As a part of Advanced Embedded Systems(UT Austin-IITH Exchange Program) course we interned with GE Appliances,India. Our task was to build a prototype to make GE Appliances smart by connecting them over the Internet.
  - We have worked with HTTP and MQTT protocols using raspberry pi(connects all local device) as a local server.
- **Teaching Assistant** — Hyderabad
  IIT Hyderabad
  - I served as a TA for Electric and Magnetic circuits course in fall 2016 semester and Device Physics in fall 2017 semester and I am currently TA for Matrix Analysis for freshmen students.

Projects

- **Land Cover Classification**
  Deep Learning Course Project — *March. 2018 - Present*
  - The goal of this project is automatic categorization and segmentation of land cover.

  - I am working on segmentation of land cover using modified versions of several state of the art techniques in semantic segmentation(Deep Lab, UNet, etc.).

- **Classification and Quantification of SRF/PED from OCT Images**
  Guide : Dr. Soumya Jana, Dept of Electrical Engineering, IIT Hyderabad *Jan. 2018 - Present*
  - The goal of this project is to assist ophthalmologists in identifying and quantifying retinal-fluid based disorders.
  - I am working on segmentation and classification of the diseased parts from OCT B-Scans using deep learning techniques.

- **Recommendation Systems using deep learning**
  Guide : Dr. Srijith P.K, Dept of Computer Science and Engineering, IIT Hyderabad *Jan. 2018 - Present*
  - I am working on building music recommendation engine where user histories are modelled as sessions containing (begin time,end time,activities) tuples.
  - I am using techniques from survival analysis and LSTM networks.

- **Imagined Speech Decoding**
  Guide : Dr. Amit Acharya, Dept of Electrical Engineering, IIT Hyderabad *Sept. 2017 - Present*
  - I am working on decoding imagined speech from EEG signals to assist dumb people in speaking.
  - I am currently building and testing my deep learning models inspired from eegnet and deepspeech2 on a synthetic dataset created from KARA ONE dataset for sentence level decoding.
  - My next plan is to create a new sentence-level EEG-ImaginedSpeech Dataset to improve results and increase the scope of this work.

- **Face Emotion Recognition**
  Guide : Dr. Sumohana S. Channappayya, Dept of Electrical Engineering, IIT HyderabadFeb. 2017 - April. 2017
  - As a part of Independent project we have developed a emotion recognition system using face images.
  - We tried several filter based approaches and achieved best results using Convolutional Neural Networks.
  - Fine-tuning pre-trained networks trained on Imagenet with FER2013 dataset also gave decent results.
  - We could achieve accuracy of about 55%.

- **Theft Detection**
  Guide : Dr. Siva Vanjari, Dept of Electrical Engineering, IIT Hyderabad *Feb. 2017 - April. 2017*
  - I have a developed an application that alerts if any motion is detected in a room(where secret info/items are stored/no one is allowed) using Raspberry Pi.
  - It also sends the picture to dropbox so that the owner can see who is the culprit. I used background subtraction algorithm and significantly increased fps by making capturing and processing of images run in parallel. I could also stream live video to local host.

Course Work

- Deep Learning*
- Practical Challenges in Image Analysis*
- Data Mining*
- DBMS*
- Applied Machine Learning
- Data Analytics
- Information Theory and Coding
- Algorithms

- Data Structures
- Computer Architecture
- Embedded Systems
- Linear Algebra

Achievements

- Secured 32nd rank in **McKinsey Analytics Hackathon** out of around 3k participants.
- Secured AIR 3925 in IIT-JEE ADV 2015 and AIR 1541 in JEE-MAINS 2015.
- Secured state Rank 521 in TS-EAMCET 2015.
- Received **RAJYAPURASKAR** Scout Award in 2010.

Skills

- **Programming Languages** - C, C++, Python, SQL, HTML
- **Softwares and Packages** - Tensorflow, PyTorch, Keras, OpenCV, Matlab
- **Operating Systems** - Ubuntu, Windows
- **Basic Knowledge** - Assembly, LaTeX
- Good Working experience with Raspberry Pi, Arduino, TM4C Launchpad.

Intrests and Extra-Curricular Activities

- I was a ”Mentor” in my sophomore year, this required me to guide, look after, and ensure that a particular flat of first years have a good time in their first semester. We were responsible for the safety and well being of the group of first years.
- I am a core-member of Lamba club which is development club of our college.
- I love playing Badminton. I follow sci-fi TV Series.
- Active NSS Volunteer.