

# AITHU SNEHITH

B.Tech undergraduate  
Electrical Engineering  
Indian Institute of Technology Hyderabad

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## EDUCATION

Year	Degree/Certificate	Institute/Board	CGPA/Percentage
2016 - Present	B.Tech	Indian Institute of Technology, Hyderabad	9.13 (Current)
2016	Senior secondary	Board of Intermediate Education, AP	98.3%
2014	Secondary	CBSE board	9.8

## PUBLICATIONS

- **Artificial intelligence based detection of infectious keratitis using slit-lamp images**  
*Kiran K. Vupparaboina, S. Vedula, **Snehith Aithu**, S. Bin Bashar, K. Challa, A. Loomba, ARVO 2019*  
*M. Taneja, S. Channapayya, A. Richhariya*
- **Lung-Originated Tumor Segmentation from Computed Tomography Scan (LOTUS) Benchmark**  
*Draft submitted to IEEE Transactions of Medical Imaging ( TMI ) 2019*  
Secured 6th position world wide for Lung-Tumor detection in IEEE VIP up 2018. Competition manuscript with all the winner's implementation details has been submitted.

## EXPERIENCE

- **KPIT Technologies Limited, Pune - Summer Intern** *July 2019*  
Worked on pruning and quantising neural networks, Image-to-image translation using VAE coupled GANs and tensorflow object detection API on traffic videos.
- **Hokkaido University, Japan - Research Intern** *may 2019 - June 2019*  
Done research on fish species detection using sonar images using deep learning techniques as a part of STSI (Sustainable Transportation System and Infrastructure) program. ( <http://bit.ly/37uOyo0> )
- **Hexagon Capability Center, Hyderabad -Winter Intern** *December 2018*  
Developed a Transfer learning model using Pointnet architecture to segment 3D point clouds on custom Datasets in Tensorflow, Python.
- **LV Prasad Eye Institute, Hyderabad - Summer Intern** *May 2018 - July 2018*  
Developed a classifier using deep learning to detect and classify ocular surface Images.

## TECHNICAL SKILLS

- **Programming languages:** Python, C++, C, Matlab, Verilog \*
  - **Python Packages Known:** NumPy, Pytorch, Tensorflow, SciKit-Learn, Keras, Matplotlib, OpenCV.
  - **Tools & Software:** Docker, Arduino, Raspberry Pi, FPGA \*
- \* Elementary proficiency*

## PROJECTS

- **Domain Adaptation Using Reinforcement learning** *Ongoing*  
*Dr. Sumohana S. Channappayya, Associate Professor, Dept. of EE, IIT Hyderabad*  
Research on applying deep-reinforcement learning on Domain adaptation for image and video classification.
- **Advertisement videos Understanding and Recommendations** *Ongoing*  
*Dr. C Krishna Mohan, Professor, Dept. of CSE, IIT Hyderabad.*  
Working on understanding advertisement videos by analysing the actions and emotions in a video using deep learning to recommend the best suitable advertisement based on the genre, emotions and context of the videos watching.

- **Fine-grain Dense Video Captioning**

Jan 2019 - April 2019

*Dr. C Krishna Mohan, Professor, Dept. of CSE, IIT Hyderabad.*

Working on detecting very fine-grained activities from videos and generating detailed captions describing the videos. We are currently working solving the above problem on MPII cooking Dataset.

- **End-to-End Learning of Communications Systems Without a Channel Model**

April 2019

*Dr. Sai Dhiraj Amuru, Adjunct Assistant Professor, Dept. of EE, IIT Hyderabad.*

Implementation of paper on End-to-End Learning of Communications Systems Without a Channel Model using neural networks and reinforcement learning. The algorithm iterates between supervised training of the receiver and reinforcement learning (RL)-based training of the transmitter.

- **Machine learning Algorithms including CNN from Scratch**

[bit.ly/2XEXu5C](https://bit.ly/2XEXu5C)

Implemented Convolutional Neural networks and many classical ML algorithms like Linear regression, MLE, Naive Bayes, SVM, KNN, PCA, K-Means clustering, GMM, HMM, ANNs, Variational and Sparse Auto-encoders from scratch in python only using numpy.

## POSITIONS OF RESPONSIBILITY

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- **Science and Technology Secretary, Student Gymkhana** - 2018 - 2019

Started a new aerodynamics club, initiated Sci-Tech Week, the longest intra-college event of IIT Hyderabad. conducted tech-talks, various competitions, and a hackathon with a prize pool of 1.5 Lakhs, the highest in the history of SciTech Council.

- Core Member of Elektronika, Robotics and Kludge - 2017 - 2018

- Teaching Assistant for Representation Learning, Internet of Things and Vector calculus

## ACHIEVEMENTS

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- **IEEE VIP CUP 2018:** Secured 6th position world wide for Lung-Tumor detection.
- **Inter IIT Tech Meet 2018:** Secured 7th position among all IITs in Exoplanet Detection.
- **Inter IIT Sports Meet 2017:** Represented IIT Hyderabad as a team in Football.
- Achieved Microsoft Azure Award in Engineering the Eye hackathon, LVPEI
- Runner up in Megathon 2017 held at IIIT Hyderabad.
- **IIT Joint Entrance Examination 2016:** Secured All India rank 4315 among 1.5 million test takers.

## KEY COURSES TAKEN

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|--------------------------------------|----------------------------------|
| • Machine Learning and Deep learning | • Data Structures and Algorithms |
| • Video Content Analysis             | • Convex Optimisation            |
| • Advanced Digital Signal Processing | • Linear Algebra                 |

## FIELDS OF INTEREST

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|---------------------------|----------------------------|
| • Artificial Intelligence | • Signal Processing        |
| • Internet Of Things      | • Quantum Machine Learning |

(References available on request)