# Naveen Reddy Desanur

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## EDUCATION

### PES UNIVERSITY
BS in Computer Science
2014-2018 | Bengaluru, India
CGPA 9.35 / 10.0

### NARAYANA PU COLLEGE
Score : 94.83%
High School. 2012-2014 | Bengaluru, India

## LINKS

LinkedIn:// naveen-reddy-d

## COURSEWORK

### UNDERGRADUATE
Advanced Machine Learning
Machine Learning
Data Analytics
Linear Algebra
Statistics
Data Structures
Algorithms
Operating System
Information Retrieval

## SKILLS

### PROGRAMMING
Languages:
• Python • Java • C • Javascript
• LaTeX
Tools/Frameworks:
• Tensorflow • Keras • PyTorch
• OpenCV
Familiar:
• Android for Tensorflow Lite

## EXPERIENCE

### SENSARA | Machine Learning Engineer
Jan 2018 - Present | Bengaluru, India

- Worked end-to-end on low-compute, on-device hotword detection for keyword "Sensy".
  - Researched on various techniques such as PocketSphinx, CNN, RNN based approaches for small-footprint keyword spotting
  - Developed GUI for audio data collection. Collected samples for both positive and negative triggers.
  - Trained and tested various models until considerable accuracy was achieved. Reduced the number of false triggers considerably.
- Worked end-to-end on Channel Logo Recognition using Deep Learning which is part of over 100K+ Smart TVs.
  - Low compute, completely offline, on-device privacy enabled Channel Logo Recognition part of Smart TVs.
  - Worked on everything starting from data collection, preprocessing, cleaning to model selection to train, test and finally deploying.
  - Went through the Idea->Experiment->Test loop over 20+ times to achieve production level accuracy. This was due to minute inter-class-similarities in the classes.
  - Deployed the low-compute, on-device model on Android platform using Tensorflow Lite. Added support for Over the Air Model updation.
- Audience Measurement Device - AI powered Pass Through Box
  - Worked on integration of Edge AI features such as Channel, Operator Recognition along with features such as Black Screen Detection, local Audio Content Recognition.
- Image Quality Analysis
  - Worked on image quality analysis to rank and select best Show Banners, in-Scene and apparel images. Images were analysed for a range of parameters such as Aesthetic quality, Blurness, Contrast, Interlacing.

### SENSARA | Machine Learning Intern
May 2017 – July 2017 | Bengaluru, India

- Worked on state-of-the-art object detection techniques using Convolutional Neural Networks and Image based Search Retrieval methods for "Metadata classification and recognition of TV advertisements". Explored at how the recognition speed can be increased by using Locality Sensitive Hashing.

## RESEARCH

### PATTERN RECOGNITION AND MACHINE INTELLIGENCE LAB | Summer Research Associate
May 2016 – July 2016 | PES University, Bengaluru, India
Implemented two Convolutional Neural Network Based Architectures for Face Recognition. The effect of using edge detection filters(Gabor, Frangi) in the pipeline of CNN was analysed. The models were tested on real world datasets and achieved an average accuracy of 95 ± 2 %. It was found that the models reduced the training time significantly and increased the overall accuracy considerably.

### CLOUD COMPUTING AND BIG DATA LAB | Research Intern
August 2016 – December 2016 | PES University, Bengaluru, India
Analyzed variegated datasets having vital particulars about various issues related to civic amenities in Bengaluru and supervised the resolution of citizens complaints across the city. This project was carried out in collaboration with Janaagraha OpenWorks.

# AWARDS

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|---|---|---|
| 2017 | Innovation Award | Smart India Hackathon |
| 2014-18 | Distinction Award | Semester I, II, III, V, VI, VII |
| 2014-18 | Top 20% of CS Dept | Prof. CNR Rao Merit Scholarship |
| 2016 | Among Top 10 | Microsoft Mobile Innovation Lab Hackathon |
| 2014 | 2nd Position | Table Tennis - PES Infini - International Sports Fest |

# PUBLICATIONS

[1] Vinay A, D.Naveen Reddy, Abhishek Sharma, "G-CNN and F-CNN: Two CNN Based Architectures For Face Recognition", International Conference on Big Data Analytics and Computational Intelligence, March 23-25th , 2017, India.