

Pathapati Aravind Ganesh

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🌀 *AravindGanesh*

in *AravindGaneshP*

Education

2016 - present B.Tech + Honors in Electrical Engineering
Indian Institute of Technology Hyderabad
CGPA: 8.3

2014 - 2016 XI and XII, AP State Board
Narayana Jr. College, Nellore
Percentage: 97.4%
JEE Advanced AIR: 1453

2013 - 2014 SSC, AP State Board
Ratnam High School, Nellore
GPA: 9.7

Areas of Interest

Research and applications in Machine Learning and Deep Learning (supervised and unsupervised).
GANs, Image and Video processing, computer vision.

Work Experience

- **2019 - Summer Internship:** Philips Innovation Campus, Bangalore
Data Augmentation using GANs.
- **2018 - Summer Internship:** NemoCare, CFHE, IIT Hyderabad
Internship as an IoT developer. Develop a module to collect and transmit health data of infants to a single hub using Arduino, BLE and open-source I2C libraries.

Projects

- **Face and Gait Recognition - Summer Project, 2018:** under the guidance of Dr.Sumohana, EE faculty, IIT Hyderabad
 - * Face Detection and Recognition and counting the number of persons in a video using openCV, DLib and FaceNet on videos(720p, 24fps) - 98% accuracy on a small test dataset.
 - * Gait Recognition using HumanposeNN and GaitNN models - 92% accuracy on small custom test dataset
 - * GitHub repo: *AravindGanesh/Face-Gait_recognition*

- **Lung Tumor Segmentation - IEEE VIP-CUP 2018:** Member in the team representing IIT Hyderabad in IEEE VIP-CUP, 2018 problem statement on segmentation of lung tumors on DICOM images. Secured 6th position in the same.
 - **Autoencoder for modeling Wireless Comm Systems** - Academic Project as a part of a course on Machine Learning Applications for Wireless Communications by Dr. Saidhiraj Amuru, EE faculty, IIT Hyderabad.
 - * Analysis, implementation (in tensorflow) and experiments based on the paper - *Deep Reinforcement Learning Autoencoder with Noisy Feedback*
 - * Link to paper: arxiv.org/pdf/1810.05419.pdf
 - * GitHub Repo: [AravindGanesh/ML_WirelessComm](https://github.com/AravindGanesh/ML_WirelessComm)
 - **ChronoLSTM:** Academic project as a part of a course on Sequence Modeling
 - * Analysis and implementation of the paper *CAN RECURRENT NEURAL NETWORKS WARP TIME?*
 - * Link to Paper: arxiv.org/pdf/1804.11188.pdf
 - * GitHub Repo: [AravindGanesh/ChronoLSTM](https://github.com/AravindGanesh/ChronoLSTM)
 - **VAD:** IV semester project under the Guidance of Dr. Sri Rama Murty Kodukula Far Field Voice Activity Detection using RNN and Raspberry-Pi
 - **Inter-IIT tech-meet 2017:** Problem statement - Technology support for Soldiers
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Technical Experience

■ Significant Courses I have done in my B.Tech

- Introduction to AI and ML
- Representation Learning
- Deep Learning
- Sequence Modeling
- Kernel Methods
- Convex Optimization
- Submodular Functions
- ML Applications in Wireless Communications
- Probability and Random Processes
- DSP
- Digital Communications
- Data Structures
- Data Analytics
- Information Sciences
- Multiple Antenna Systems

■ ML Frameworks

- tensorflow and keras (eager)
- scikit-learn
- tensorflow_probability (beginner level)

■ Programming Languages

- python3 - numpy, scipy, matplotlib, PIL, scikit-image, opencv, pandas
- C, C++ and matlab at basic level

■ Machine Learning and Deep Learning

- Deep Learning - MLP, CNN, autoencoders, VAE, GAN, basics of RNN and LSTM
- Machine Learning - supervised and unsupervised techniques, kernel methods

■ Miscellaneous

- Preferred OS: Linux-Ubuntu
 - git, GitHub
 - Raspberry Pi, etc.
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Extra Curriculars

- Core member of Elektronika club, Sci-tech Council, IIT Hyderabad
- Participant in Inter-IIT Tech-meet, 2017 and 2018
- Coordinator of Workshops and Hackathon, ELAN & nvision - 2018
- Active volunteer for NSS, IIT Hyderabad