Pathapati Aravind Ganesh

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28th March, 1999
AravindGanesh
AravindGaneshP
resume link

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*
- **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*
- **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.

Extra Curriculars

- Core member of Elektronica 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