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Yadnyesh Y. Luktuke
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Education

- Master of Science - Computer Engineering, Clemson University. Aug 2018 - May 2020
- Master of Science - Electrical Engineering, Delft University of Technology. Sep 2014 - Jan 2017
- Bachelor of Engineering - Electronics & Telecommunication, University of Pune. Aug 2008 - May 2012

Programming skills

- **Languages:** Python, C, MATLAB (advanced), C++, R (beginner) **OS:** Windows, Linux/UNIX (basic)
- **Tools:** TensorFlow, Keras, scikit-learn, OpenCV (advanced) SQL, Git, Msys2, PyTorch, Jupyter Notebooks (basic)

Projects

- MS Thesis: Segmentation & recognition of eating gestures from wrist motion using deep learning. Oct 2019 - Apr 2020
  - Tracking wrist motion during a meal can detect eating patterns and estimate calories consumed as seen here.
  - Developed the first deep learning model for detecting and identifying eating gestures in real time using TensorFlow.
  - It correctly identified 77.7% of all gestures on average per meal from a data set of 488 meals eaten by 276 people.
  - Accepted at the '2020 IEEE International Conference on Big Data' to be held in December 2020.
- Analysis of Tracking Systems, Clemson University. Aug 2018 - Dec 2018
  - Model fitting for a given application is dependent on the nature of the data and the noise limiting the sensor.
  - Studied techniques for fitting models to different data sets under assumptions of Gaussian and non-Gaussian noise.
  - Implemented a Kalman filter algorithm for tracking a person indoors, recursive Bayesian estimation and particle filter for tracing magnetic field strength and a hidden Markov model (HMM) for DNA sequence identification.
- Digital Speech & Audio Processing, Delft University of Technology. May 2015 - Jul 2015
  - Speech & audio processing is the study of audible sound signals, and systems & algorithms that process these.
  - In digital hearing aids multiple factors combine to form non-stationary noise which degrades signal quality.
  - Implemented an algorithm for estimating non-stationary noise parameters in multiple sliding windows.
  - Produced clean & audible speech signal at multiple values of signal to noise ratio (SNR) as seen here.

Experience https://www.linkedin.com/in/yyl1109/

- Graduate Student Summer Employee: Research Internship, Clemson University. May 2019 - Aug 2019
  - Researched problems with generative adversarial networks (GANs) in synthetically staining microscopy images.
  - Identified and developed the cyclic-conditional GAN (pix2pix + CycleGAN) as a feasible option using PyTorch.
  - It achieved 0.9 mean similarity (Pearson correlation coefficient) among 300 test images as 256 x 256 resolution.
- Co-Researcher: Deep learning, Maharashtra Institute of Technology (M.I.T. - Pune). Feb 2018 - Jul 2018
  - Conducted research on deep learning models for predicting an aesthetic score for images and videos.
  - Trained the undergraduate and graduate students of the Department of Computer Engineering at M.I.T - Pune through hands-on coding sessions in Python & TensorFlow.
- Data Scientist, Climate Connect Pvt. Ltd. Aug 2017 - Jan 2018
  - Accurately forecasting energy generation helps providers effectively manage resources and avoid shortages.
  - Developed machine learning models for forecasting trends in renewable energy and energy price data sets.
  - Improved the forecasting accuracy of the Indian Energy Exchange (IEX) model by 36% for a period of four months.
- Engineer Trainee, Cognizant Technology Solutions Pvt. Ltd. Dec 2012 - Oct 2013
  - Supported on-site operations by monitoring and documenting jobs on client IBM-Mainframe servers.