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Education

- MS., Clemson University, Computer Engineering. 2018 - 2020
  Thesis - Segmentation and recognition of eating gestures from wrist motion using deep learning: Implemented a novel deep learning model for automatically detecting periods of activity from wrist-motion and classifying these into specific eating related gestures. The data was recorded using IMU sensors fitted inside a watch-like device.
- MSc., Delft University of Technology (TU Delft), Electrical Engineering. 2014 - 2017
  Thesis - Intensity normalization in brain MRI images using machine learning: This project explored methods for transforming multi-scanner MRI images of individual patients into a common intensity-space. This is thought to be useful in follow-up diagnosis for patients that relocate to other places after serious health related conditions.
- B.E., Maharashtra Institute of Technology - Pune, Electronics & Telecommunication Engineering. 2008 - 2012

Courses & Projects

- Clemson University, Graduate Student Summer Employee. May 2019 – Aug. 2019
  Conducted research on synthetically staining phase-contrast microscopy images using a new neural network known as cyclic conditional generative adversarial networks (CC-GAN). Our model achieved a mean similarity of 0.9 (Pearson correlation coefficient) with the test set images at small size (256 x 256) and 0.8 at full size (2048 x 2048).
- Clemson University, Deep Learning. Jan. 2019 - May 2019
  This course covered the latest research in neural networks such as CNN, LSTM and GAN. For our project, we implemented a residual neural network (ResNet) for classifying images as bullying or non-bullying based on the activity (verbal/physical) contained in them.
- Clemson University, Analysis of Tracking Systems. Aug. 2018 - Dec. 2018
  Studied and implemented models for predictive analysis on different data sets using techniques such as linear and non-linear regression. In addition, Kalman filter, extended Kalman filter and particle filter were applied for continuous sequential data, while discrete sequential data was analyzed using a hidden Markov model (HMM).
- TU Delft, Machine Learning & Kaggle competition 'Final Assignment-IN4320'. Mar. 2016 - Aug. 2016
  Topics included loss regularization, boosting and stochastic gradient descent as well as advanced topics including semi-supervised learning, multiple instance learning and reinforcement learning. Implemented a classifier that achieved 83.45% accuracy in predicting whether or not a person would earn more than 40,000 Euros in a year.
- TU Delft, Digital Speech & Audio Processing. May 2015 - Jul. 2015
  This course introduced us to the fundamentals of the human hearing system, speech and audio coding systems and speech enhancement. Designed a system for far-end noise reduction in digital hearing aids by estimating statistical parameters of non-stationary noise and performing speech enhancement to produce clean and audible speech.

Experience

- Clemson University, Graduate Grading Assistant and Graduate Teaching Assistant. Aug. 2018 - May 2020
  Conducted the laboratory experiments for the course Logic & Computing Devices for undergraduate engineering students, and graded the courses Communication Systems, Signals & Systems and Analysis of Tracking Systems.
- Climate Connect Ltd., Data Scientist. Aug. 2017 - Jan. 2018
  Implemented models for forecasting trends in renewable energy data sets and predicting day ahead stock prices.
- Cognizant Technology Solutions Pvt. Ltd., Engineer Trainee. Dec. 2012 - Oct. 2013
  Responsible for monitoring daily job execution on mainframe servers, and reporting failure of critical jobs.

Technical Skills

- **Programming:** C (intermediate), MATLAB and Python (proficient). **OS:** Linux and Windows.
- **Tools:** Cygwin, GitHub, Keras, MSys2, numpy, OpenCV, pandas, PyTorch, System Programming, TensorFlow.
- **Keywords:** Computer vision, data science, deep learning, machine learning, signal processing and wearable devices.
- **Volunteer Work:** Clemson University, Reviewer for:
  - IEEE - EMBS 16^{th} International Conference on Wearable and Implantable Body Sensor Networks 2019.
  - 25^{th} International Conference on Pattern Recognition (ICPR) 2020.