NISHA GANDHI

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"I believe in learning new things every day, or making machines learn them."

WORK EXPERIENCE

Computer Vision Lab, Stony Brook University (Graduate Researcher) Summer 18

- Developing a model for Human Pose Estimation and Gesture Recognition in real-time from a livestream camera.
- This output will be used to display interactive/fun content on a big-screen in the university campus.

Keywords: OpenPose, Gesture Recognition Toolkit, Dlib, OpenCV, PyTorch, Python 3.6, Gstreamer, Jetson TX2

Human Interaction Lab, Stony Brook University (Graduate Researcher) Spring 18

- Contributed to developing a speech-stream manipulation system to help public speakers produce fluent content.
- Reduced the rate of disfluent pauses from 3.65/minute to 1.76/minute by using Machine Learning classifiers.

Keywords: Machine Learning, SVM, Logistic Regression, Kaldi, Python 3.6

AlgoAnalytics, India (Machine Learning Intern) Spring 17

- Implemented real-time Logo Detection and Recognition from 32 Logo classes using Deep Learning techniques.
- Improved training accuracy from 83% to 87.6% by parameter tuning and data augmentation.

Keywords: Convolutional Neural Networks (CNN), Transfer Learning, Tensorflow, Python 3.6

SELECT PROJECTS

Human Detector in images | Machine Learning Spring 18

- Programmed a discriminative classifier, Support Vector Machine (SVM) to detect human upper-bodies in images.
- Improved validation accuracy from 92% to 96.5% by minimizing false detections. Applied this model for human action classification using Neural Networks to achieve a Kaggle accuracy of 80.5%.

Keywords: MATLAB, Quadratic Programming, Stochastic Gradient Descent, Hard Negative Mining, LSTM, PyTorch.

Drowsy Driver Detection | Machine Learning, Computer Vision Fall 17

- Trained a Recurrent Neural network based on the outputs of an eye-tracking (Computer Vision) model in videos.
- Predicted if a driver will fall asleep (video unseen by the model) with an accuracy of 87.5%.

Keywords: Long Short-Term Memory (LSTM), Keras, Python 2.7

Face Tracking in Videos | Computer Vision Fall 17

- Detected faces in the first frame of a given video, then tracked it through the rest of the frames using Computer Vision algorithms.

Keywords: Haar Cascades, Camshift, Kalman Filter, Optical Flow, OpenCV, Python 2.7

SKILL SET

Programming Languages : Python (Advanced), C++ (Moderate)
Tools & Technologies : OpenCV, PyTorch, MATLAB, Keras, Tensorflow

EDUCATION

Stony Brook University, New York (MS in Computer Science) December 18
Course Highlights: Machine Learning, Computer Vision, Natural Language Processing, Analysis of Algorithms.
GPA: 3.67/4.0

Pune Institute of Computer Technology, India (BE in Information Technology) May 17
Course Highlights: Machine Learning, Data Structures, Operating Systems, Design & Analysis of Algorithms.
GPA: 3.72/4.0

PUBLICATIONS and CONTRIBUTIONS

- Submitted (co-authored) a research paper titled, "Increase Apparent Public Speaking Fluency by Speech Augmentation" to Spoken Language Technology IEEE 2018.
- Contributing to the Open Source Library, Gesture Recognition Toolkit (GRT), by providing python interface.