NISHA GANDHI

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

EDUCATION

Stony Brook University, New York (MS in Computer Science) **GPA:** 3.63/4.0 | Dec '18
Course Highlights: Machine Learning, Computer Vision, Natural Language Processing, Analysis of Algorithms, Probability & Statistics for Data Science, Database Systems, Discrete Mathematics.

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

SKILL SET

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

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, OpenCV, PyTorch, Python 3.6, GStreamer, Jetson TX2(ARM), CUDA 9, GPU, Logitech

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, Audio Analytics, SVM, Logistic Regression, Kaldi, Python 3.6

AlgoAnalytics, India (Machine Learning Intern) Spring 17
- Implemented Logo Detection & Recognition from 32 Logo classes using Deep-Learning techniques.
- Improved training accuracy from 83% to 87.6% by hyper-parameter tuning and data augmentation.

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

SELECT PROJECTS

Yelp Data Analysis | Probability & Statistics for Data Science Spring 18
- Performed data preprocessing, and found interesting trends such as location effect, event effect, seasonal effect on restaurant business.
- Applied techniques such as multiple Linear Regression, Time Series Analysis, Wald's test etc. to find these trends.

Keywords: Data Analysis, Large Datasets, Pandas, NumPy, Scikit-Learn, Python 3.6

Human Detector in images | Machine Learning Spring 18
- Programmed a discriminative classifier, Support Vector Machine (SVM) to detect human upper-bodies in images.
- Improved and optimized validation accuracy from 92% to 96.5% by minimizing false detections.

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

Human Action Classifier | Machine Learning Spring 18
- Coded a Long Short-Term Memory model for classifying 10 human actions in video frame sequences using 3D locations of body joints. Achieved test accuracy of 80.5%.

Keywords: RNN, LSTM, Sequence Classification, Python 2.7, PyTorch.

Face Tracking in Videos | Computer Vision Spring 18
- Detected faces in the first frame, then tracked it through the rest of the video using Computer Vision algorithms.

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

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.