

Tejas Naik

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EDUCATION

Stony Brook University, New York Aug '17-Dec '18 (Expected)
Master of Science in Computer Science GPA: 3.6/4.0

Course Highlights: Computer Vision, Artificial Intelligence, Machine Learning, Natural Language Processing, Analysis of Algorithms, Probability and Statistics for Data Scientists, Database Systems.

Pune Institute of Computer Technology (PICT), University of Pune, India May '13-May '17
Bachelor of Engineering (Information Technology) GPA: 3.7/4.0

Course Highlights: Machine Learning, Operating Systems, Distributed Systems, Data Structures, Analysis of Algorithms, Information Storage & Retrieval, Cloud Computing.

SKILL SET

Programming Languages : C++, Python, C.

Tools and Technologies : OpenCV, MATLAB, PyTorch, Dlib, Librosa, Kaldi, Flask, SocketIO, SQL, Hadoop, MongoDB.

WORK EXPERIENCE

D3 LLC, New York (Computer Vision and Machine Learning Intern) June '18 - Aug '18

- Built a software for a digital kiosk, allowing skin tone recognition in various lighted environments using Computer Vision and Deep Neural Networks achieving a total recognition time of 300 ms and accuracy up to 90%.
- Developed a Speech Recognition model for Keywords Recognition using Librosa and Neural Network-VGG 16 to achieve a validation accuracy of 95% and a testing accuracy of 90%.

OpenCV, DLib, PyTorch, Python 3.6, Librosa, VGG 16, CNN, Computer Vision, Deep Learning, Flask, SocketIO

Human Interaction Lab, Stony Brook University (Research Assistant) Feb '18 - June '18

- A speech stream model to help speakers produce fluent content by manipulating speech disfluencies and long silences.
- Contributed towards classifying disfluent/fluent silences using their MFCC features by SVM, XGBoost, Logistic Regression.
- Submitted a paper, "Increase Apparent Public Speaking Fluency by Speech Augmentation", to Spoken Language Technology IEEE 2018.

Python 3.6, Support Vector Machines, Librosa, Kaldi.

BMC Software India Pvt. Ltd. (Software Engineer Intern) Aug '16 - May '17

- Engineered a project for the 'Auto-Scaling of Application Servers' for BMC's product 'BSA'.
- Contributed towards writing REST API's for fetching real time data like CPU load from Nagios Monitoring Tool, and for analyzing this data and intelligently predicting the scaling of the servers.
- Integrated this model with the load balancer of 'BSA' to put into the production environment of BMC Software.

AWS, Machine Learning, Python 2.7, Nagios, Flask, Micro-service Architecture, MongoDB.

PROJECTS

Object Detection and Action Classification. (Python 3.6, PyTorch, SVM, LSTM) Mar '18 - April '18

- Implemented Multiclass SVM, Kernel SVM using Stochastic Gradient and Quadratic Programming.
- Used this model to perform Object Detection on images. Improved the validation accuracy from 92% to 97% by performing the Hard-Negative Mining Algorithm.
- Constructed and trained a LSTM model to classify human actions to achieve a **Kaggle Test Score of 85%**.

Drowsy Vehicle-Driver Detection. (Python 2.7, OpenCV 3.3.0, CNN, RNN, LSTM) Oct '17 - Dec '17

- Developed a model for detecting the drowsiness level of a driver by continuous eye tracking in a real-time video using Haar Cascades and CamShift algorithm and using this sequence of frames as an input to LSTM model.
- This model then predicts the drowsiness/alertness of a driver with an **accuracy of 87.5%**.

Face Detection/Tracking. (OpenCV 3.3.0, Python 2.7) Sep '17 - Oct '17

- Constructed a Face-Detector using Viola-Jones detector, and then tracked the face throughout the video frames using CamShift, MeanShift, Particle Filter, Kalman Filter, Optical Flow trackers.
- Observed that the best results were obtained from Optical Flow algorithm with an **accuracy of 90%**.