+1(404)563-2202
470, 16th St NW, Atlanta, Georgia
tgandhi9@gatech.edu

TARUSHREE GANDHI

Georgia Institute of Technology
Master of Science, Computer Science (Aug 2019 - Dec 2020)

Linkedin.com/tarushree-gandhi
Profile : http://tarushree.github.io

I am a highly self-driven Machine Learning Engineer guided by more than 3 years of valuable work-experience, with an exceptional desire to learn, implement and innovate ideas. I am always on the lookout for interesting Computer Vision, NLP and Robotics problems that help me advance my knowledge and improve my practical skills. I am actively seeking an internship opportunity starting Summer 2020.

Interests

Computer Vision | NLP | Robotics

Key Skills

- Language proficiency - Python, R, C, C++, Java | Tools - Jupyter Notebook, Android Studio, Git, MongoDB | OS - Linux, ROS
- DL and ML libraries - OpenCV, Scikit-Learn, Dlib, Darknet, Torch7, Pytorch, Caffe, Keras, TensorFlow.
- CNNs and ML algorithms - HOG, SVM, Densenet, Squeezenet, Enet, PspNet, Mask R-CNN, Faster R-CNN

Education

- Vellore Institute of Technology, India (B.Tech, Computer Science) ***9.13 CGPA*** *(2012 - 2016)*
- Delhi Public School, India (Class XII / Senior Secondary) ***93 %*** *(2012)*
- Delhi Public School, India (Class X / Matriculation) ***9.6 CGPA*** *(2010)*

Coursework

Machine Learning, Artificial Intelligence, Computer Vision, Data Mining, Natural Language Processing, Deep Learning for Text, Probability and Statistics, Data Structures and Algorithms, Software Engineering, Linear Algebra, Discrete Mathematics,Object Oriented Programming and Paradigm, Operating Systems, Web Technology.

Achievements

- **Outstanding Achiever Mention - The Hi-tech Robotic Systemz Ltd.** *(Mar 2018)*
  Achieved recognition for my Semantic Segmentation test model's success at detecting woman rider in the autonomous Uber crash video, Arizona (March 2018), 1.1 seconds before the crash. The model's efficiency was highly appreciated by top management of the firm.
- **Meritorious Student Award - VIT University (Rank - 8 / 120)** *(July 2016)*
  Awarded to top 10 rank holders of B.Tech Computer Science (Batch 2012 – 2016).
- **National Honour - Innovative Project Fund** (Awarded with INR 1 lakh) *(Dec 2015)*
  Project Airport Assistance System(based on robot navigation, face detection and query processing) was selected by IEDC (Innovation and Entrepreneurship Development Centre), Department of Science and Technology, Government of India for project development funding.

Work Experience

Research Engineer | The Hi-tech Robotic Systemz Ltd. *Gurgaon, India*
Fields: Computer vision | Deep Learning | Machine Learning *(June 2017 - July 2019)*

Image Classification

- ***Real-time Traffic Light Classification*** - Road scene image classification into red light/ green light/ no light using Convolutional Neural Networks (Darknet). Network used - Modified Densenet, accuracy - 98.4% on test data, speed - 8 fps on Nvidia TX1.
- ***Dual Classifier*** - Implemented modified SqueezeNet (Caffe) to achieve two objectives simultaneously i.e. classifying images into day-time and night-time and classifying images as interesting/uninteresting - Model accuracy - 92.3% on test dataset.
- ***Single Shot Detector (SSD) features classifier*** - Designed a convolutional neural network to classify SSD features into good or bad. The network is trained using SSD features of images whose detection results by SSD are pre-determined. The model successfully predicts the images on which SSD object detection will fail.

Image Segmentation

- ***Semantic Segmentation*** - Implemented Enet (Torch) for Semantic Segmentation of street-scene images into road, four-wheelers, two-wheelers and person. Incorporated ResNet features into Enet to achieve 65% accuracy on test data, running at a speed of 7 fps on Nvidia TX1.
- ***Instance-level Segmentation*** - Multiple-branch Encoder-Decoder network (Torch) used for simultaneous class-wise and instance-wise Image Segmentation. Achieved 45% instance accuracy on Cityscapes test dataset.

Object Detection

- ***Lane Departure Warning*** - Designed a lane proposal refinement model for Lane Departure Warning system.
- ***Blind-spot Warning*** - Vehicle detection in Blind Spot using HOG and SVM (Dlib). Overall model accuracy - 68.5%.

Data Management and Data Annotation

- ***Active Learning*** - Developed a smart image selection framework for image annotation using Mask R-CNN, SSD networks.
- ***MongoDB inference framework*** - Implemented an automated framework for data querying and test inference reports generation, presenting accuracy numbers and related graphs.

Software Engineer | Cleartrip Pvt. Ltd | Android Mobile Application Development *Bangalore, India (July 2016 - June 2017)*
Added features to Cleartrip App like Wishlist, Google Smart Lock for password, Cleartrip wallet and convenience fee for payment segment.

UG Thesis Project | Research Intern | Zenatix Solutions Pvt. Ltd | Machine Learning *Gurgaon, India (Dec 2015 - June 2016)*
Designed a predictive thermal model for HVAC optimization that aimed at optimizing air-conditioner usage in buildings in order to conserve energy, while maintaining the same comfort level. Used Machine Learning concepts (Python) like Regression, SVM, Clustering, Normalization and Cross-validation. Carried out Data Analysis using Statistics and Data Visualization.