# DWEEP KUMARBHAI TRIVEDI

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## EDUCATION

**University of Southern California**, Los Angeles, CA — **Graduating May 2019**
Master of Science in Computer Science — **GPA:** 3.94/4.0

Coursework: Machine Learning (CSCI567), Applied Natural Language Processing (CSCI544), Foundations of Artificial Intelligence (CSCI561), Analysis of Algorithms (CSCI570)

**Dhirubhai Ambani Institute of Information and Communication Technology**, India — **July 2011-May 2015**
Bachelor of Technology in Information and Communication Technology — **GPA:** 9.15/10

## SKILLS

**Programming Languages:** Python (Proficient), C (Proficient), C++ (Familiar), MATLAB, Octave, Perl, Bash Scripting, SQL
**Frameworks and Tools:** Caffe, Yolo, Keras, scikit-learn, TensorFlow, gdb, make

## PROJECTS

**Vehicle Detection** — **July 2018**
**Language: Python** — https://github.com/dweeptrivedi/vehicle-detector
Implemented SVM classifier and sliding window technique to detect vehicles in a video. The classifier was trained using HOG features and GTI vehicle image database, KITTI vision benchmark suite datasets. Accuracy of classifier: 98%

**AI Meets Beauty** (Team: ML Artists) — **April 2018 - June 2018**
500k Beauty Product Image Recognition Competition — https://challenge2018.perfectcorp.com
Fine-tuned GoogleNet, VGG19 models in Caffe to classify images using custom classes to reduce search space. Designed and programmed end-to-end pipeline in python, which integrates OCR, text classifier, image vector generator, image classifier modules.

**Hotel Review Classifier** — **March 2018 - April 2018**
**Language: Python** — https://github.com/dweeptrivedi/hotel-review-classifier
Programmed Naïve Bayes and Perceptron classifiers to identify hotel reviews as either truthful or deceptive, and either positive or negative.

**AI Game Playing Agent** — **Oct 2017**
**Language: C++** — https://github.com/dweeptrivedi/CSCI561-Artificial-Intelligence
Developed AI game playing agent to play Fruit rage game. The agent uses minimax algorithm with alpha-beta pruning and dynamically selects depth for search based on game board. It chooses best possible move to play against human or other agent to win under 5 minutes.

## WORK EXPERIENCE

**Integrated Media Systems Center, USC** — **Los Angeles, CA**
**Student Researcher** — **February 2018 - present**
Conducting research on following TVDP Platform projects (http://mediaq.usc.edu:8080/TVDP/projects.html):

- **Surface Detection for Graffiti Removal:** Prediction of 24 surface types on which graffiti is drawn to suggest best cleaning procedure using Computer Vision techniques and Deep Learning Frameworks.
- **City Street Cleanliness:** Detection of cleanliness of streets as well as 4 specific objects (Bulky Items, Illegal Dumping, Encampment, Overgrown Vegetation) in need of removal from video stream data. Designing deep learning architecture that improves performance of the image classifier using large unlabeled dataset.

Frameworks used: Yolo, Keras-retinanet, Caffe, Scikit-learn, Keras

**Juniper Networks** — **Bangalore, India**
**Software Engineer – II/ Software Engineer - I** — **January 2017 - July 2017/July 2015 - December 2016**
**Software Engineering Intern** — **January 2015 - June 2015**

- Modified routing protocols and routing infrastructure modules for migration from JUNOS OS to nextGen distributed OS.
- Redesigned and implemented OS infrastructure modules related to scheduler (kernel event notification mechanism), multithreadin and I/O operations for nextGen distributed OS.
- Mentored interns to get onboard with company's technology stack and ATF testing.

**Dhirubhai Ambani Institute of Information & Communication Technology** — **Gandhinagar, India**
**Research Intern** — **Summer 2014**

- Conducted research on heuristic approaches (BLAST, FASTA) to sequence alignment problems and gap penalty models. Devised and analyzed algorithms for problems which can be used in BLAST and FASTA.

## AWARDS

- Received two "Department Spotlight Award - In My Group" recognitions for outstanding performance in routing infrastructure team at Juniper Networks.