

# OMKAR RANADIVE

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## EDUCATION

### Northwestern University

Master of Science in Computer Science, CGPA: 4.0/4.0

**Coursework:** Machine Learning, Statistics, Advanced Deep Learning, Deep Learning Foundations, Data Science Seminar, Intro to AI

**Evanston, Illinois**

September 2019 - Present

### K.J.Somaiya College of Engineering

Bachelor of Technology in Computer Engineering, CGPA : 8.99/10

**Coursework:** AI, Machine Learning (Topper), Neural Nets, Image Analysis (Topper), Fundamentals of Programming, Data Structures, Algorithms, Operating Systems (Topper)

**Mumbai, India**

August 2015 - May 2019

**Certifications:** Deep Learning Specialization (Deeplearning.AI), Machine Learning (Stanford, Coursera)

## EXPERIENCE

### Northwestern University

Graduate Research Assistant / Prof. Prem Seetharaman

**Evanston, Illinois**

Starting January 2020

- Working on developing a Reinforcement Learning environment and agents which are capable of audio signal separation.

### K.J Somaiya College of Engineering

Deep Learning Intern / Prof. Grishma Sharma

**Mumbai, India**

January 2018 - April 2018

- Researched k-shot learning methodologies and developed a facial recognition system which can be trained on limited data.
- The system gives 100% accuracy for k=3 and subjects less than 20. For 20-30 subjects and k=3, accuracy ranges from 80 to 90%.

### Accelo Innovation

Machine Learning Intern

**Mumbai, India**

August 2017 - October 2017

- Implemented depth mapping module using Stereo Vision and achieved a 98% accuracy (2 cm error) for objects up to 5m away. Objects 20m away were estimated with 95% accuracy.
- Implemented object detection module with a combination of Haar Cascades, Histogram of Gradients and a CNN model.
- Implemented lane detection module using Inverse Perspective Mapping.

## PUBLICATIONS

### Simulation Environment for Development and Testing of Autonomous Learning Agents

Karan Joisher, Suhaib Khan, Omkar Ranadive. Presented at ICAST 2019, published in Elsevier-SSRN, April 2019.

### k-Shot Learning for Face Recognition

Omkar Ranadive and Dhiti Thakkar. International Journal of Computer Applications 181(18):43-48, September 2018.

## PROJECTS

**Citizens Police Data Project:** Analyzed the trends after CPDB (Citizens Police Database) went public and compared it with the trends before the release of CPDB.

**Simulation Environment for Development and Testing of Autonomous Learning Agents:** Built a virtual environment for autonomous driving agents which allows data capturing at 60+ FPS, simulates pedestrian and vehicular traffic and acts as a plug and play interface for reinforcement and supervised learning agents.

**Password Cracking and Strengthening Tool:** Programmed a GUI based tool in Python for cracking passwords which can run different attacks and has adjustable parameters. It also suggests easy to remember strong passwords.

**Context Aware Searching:** Created a program which predicts related keywords based on input query using N-Gram Model and a Neural Embedding Network.

**Credit Card Fraud Detector:** Developed a credit card fraud detector which detects fraudulent transactions using Anomaly Detection.

**Movie Recommender and Scraper:** Implemented a movie recommender system which forms the database by scraping information from the internet and recommends movies based on past user preferences.

## SKILLS

<b>Languages/Web</b>	Python, Java, C, C++, HTML5, CSS3, PHP, Javascript, Angular.JS , Node.JS
<b>Libraries</b>	PyTorch, Tensorflow, OpenCV, OpenAI-gym, Pandas, Numpy, Scikit-learn, Keras, Tflern, NLTK
<b>Analytics</b>	PostgreSQL, MySQL, Spark, Tableau, Trifacta, Matplotlib, D3.js

## ACHIEVEMENTS/ACTIVITIES

- Winner of IEEE Technical Paper Presentation for the paper "Framework for low cost driver-assistance system".
- Second and First Year Representative, Computer Society of India - Conducted 20+ events and seminars.