

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, Statistical Language Modeling, Intro to AI, Algorithms

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

• Developed Otoworld, an interactive environment to train reinforcement learning agents for the task of audio separation.

Evanston, Illinois

January 2020 - Present

K.J Somaiya College of Engineering

Deep Learning Intern / Prof. Grishma Sharma

• 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%.

Mumbai, India

January 2018 - April 2018

Accelo Innovation

Machine Learning Intern

• 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.

Mumbai, India

August 2017 - October 2017

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

COVID-19 Graph Neural Networks: Created an end-to-end pipeline for analyzing the spread of COVID-19 using Graph Convolution Networks and Message Passing Networks.

Domain Adaptation using CycleGAN: Developed a CycleGAN architecture for generating real-world images from simulated images to reduce the domain gap between real-world data and simulated data.

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 using PostgreSQL, Tableau, Trifacta, Graph Frames and Spark.

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

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

ACHIEVEMENTS/ACTIVITIES

- Labs/Reading Groups (Northwestern University): Research in Automated Listening Methods Lab, Modern Artificial General Intelligence Lab, AI Journal Club
- 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.