

EDUCATION	Northwestern University Master of Science in Computer Science, GPA: 4.0/4.0 Coursework: Machine Learning, Statistics, Deep Learning Foundations, Advanced Deep Learning, Data Science Seminar, Statistical Language Modeling, Intro to AI, Algorithms Labs/Groups: REALM Lab, MAGICS Lab, AI Journal Club	Evanston, Illinois Sep 2019 – Present
	K.J Somaiya College of Engineering Bachelor of Technology in Computer Engineering, GPA: 8.99/10 Coursework: Machine Learning (Topper), Neural Nets, Image Analysis (Topper), AI, Data Structures, Algorithms, Operating System (Topper)	Mumbai, India Aug 2015 – May 2019
	Certifications Deep Learning Specialization (Deeplearning.AI), Machine Learning (Stanford, Coursera)	
WORK EXPERIENCE	CIERA Researcher Prof. Vicky Kalogera's Group	Evanston, Illinois Jun 2020 – Present
	<ul style="list-style-type: none">Responsible for developing Machine Learning algorithms and applying them across different projects.Developing a Machine Learning algorithm to detect local earthquakes from seismic data.Developing a ML based retirement algorithm to effectively retire labeled seismic samples on Earthquake Detective - a crowdsourcing platform	
	Northwestern University Graduate Research Assistant Prof. Prem Seetharaman	Evanston, Illinois Jan 2020 – Jun 2020
	<ul style="list-style-type: none">Developed Otoworld, an interactive environment for training Reinforcement Learning agents for Computer Audition.Agents are rewarded for "turning-off" sources which are spawned in the environmentAgents trained in this environment implicitly learn to separate the sources by learning to maximize the rewardDeveloped a RL agent with a Monaural Separation Model, Spatial Feature Extractor and a Q-Network to navigate this environment	
	K.J Somaiya College of Engineering Research Intern Prof. Grishma Sharma	Mumbai, India Jan 2018 – Apr 2018
	<ul style="list-style-type: none">Researched k-shot learning methodologies and developed a facial recognition system which can be trained on limited data. (k=number of training samples per class)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 Aug 2017 – Oct 2017
SKILLS	<ul style="list-style-type: none">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.	
	Languages/Web: Python, Java, C, C++, HTML, CSS, PHP, Javascript, AngularJS, Node.js Analytics/Tools: PostgreSQL, MySQL, AWS, Git, Docker, Spark, Tableau, Trifacta, Matplotlib, D3.js Libraries: Pytorch, Tensorflow, OpenCV, OpenAI-Gym, Numpy, Pandas, Scikit-Learn, NLTK, Keras	

- PUBLICATIONS
1. **O. Ranadive**, G. Gasser, D. Terpay, and P. Seetharaman, "Otoworld: Towards learning to separate by learning to move," in *Self Supervision in Audio and Speech Workshop, 37th International Conference on Machine Learning, Vienna, Austria (ICML'20)*, Jul. 2020.
 2. K. Joisher, S. Khan, and **O. Ranadive**, "Simulation environment for development and testing of autonomous learning agents," in *2nd International Conference on Advances in Science & Technology (ICAST'19, Elsevier SSRN)*, Apr. 2019.
 3. **O. Ranadive** and D. Thakkar, "K-shot learning for face recognition," *International Journal of Computer Applications* 181 (18), pp. 43–48, Sep. 2018.

PROJECTS

Analyzing spread of COVID-19 using Graph Neural Networks: Developed an end-to-end pipeline to analyze COVID-19 data. Users can visualize the data, form a graph structure and predict spread using Graph Convolution Network and Message Passing Network.

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. This leads to more effective training of AI agents in the simulation environment. Additionally, implemented a Multi-Iterative CycleGAN architecture which enhances the output produced and leads to better understanding of behavior of the generator.

Citizens Police Data Project: Analyzed the crime trends after the CPDB dataset went public vs before it was public. SQL was used to analyze officer trends, Tableau and D3.js were used to produce heat maps and visualize results, graph analytics was used to identify offending officers, and ML was used to process summaries of reports, generate severity score and find important keywords in documents.

- AWARDS & ACTIVITIES
- Winner of **IEEE** Technical Paper Presentation for the paper "Framework for low cost driver-assistance system".
 - Undergraduate Final Year, **Rank 2**
 - Council Member of **Computer Society of India**. Created technical content, taught 100+ students in workshops and managed 20+ events and seminars.