

# SARAT BHARGAVA CHINNI

682.234.1596 ◊ sarat2895@g.ucla.edu ◊ <https://www.linkedin.com/in/saratbhargava/>

## EDUCATION

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### University of California, Los Angeles

*Jun '20*

*Master of Science in Electrical and Computer Engineering, Machine learning Track*

GPA: 3.93/4.0

**Relevant Coursework:** Deep learning and Neural Networks, Methods of Machine learning, Large Scale Data mining, Reinforcement learning, Computational Robotics, Advanced Speech Processing, Convex Optimization.

### Indian Institute of Technology Hyderabad

*Aug '17*

*Bachelor of Technology in Electrical Engineering with honors*

GPA: 9.18/10.0

## TECHNICAL SKILLS

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C, C++, MATLAB, Postgres SQL, Python, Pandas, Sklearn, Keras, TensorFlow, PyTorch, AWS SageMaker.

## RELEVANT WORK EXPERIENCE

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### Lecida, Berkeley — Machine Learning Software Engineer Intern

*Summer 2019*

- Implemented time series, spectral features for both constant and varying sampling rate signals in Python using Numpy and Scipy libraries. Performed Anomaly detection to predict the industrial machines that will fail in future by estimating data density from GMM and MADE Model in TensorFlow.

### Indian Space Research Organization, Bangalore — Scientist/Engineer-SC

*July 2017 - Aug 2018*

- Designed test system software which automatically tests the functionality of various modes of telecommand processor software for Chandrayan-2 rover and lander.

### Indian Institute of Science, Bangalore — Summer Research Intern

*May 2016 - July 2016*

- Implemented Face Recognition system on Extended Yale dataset using Caffe, Lasagane.

## RELEVANT PROJECTS

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### Deep Learning based Action Recognition (AR) from EEG Data

- Explored various CNN, RNN, Conv-Recurrent Net architectures in Keras. Implemented data preprocessing techniques like Windowed cropping, Sub-sampling to obtain the best performance of 67% with stacked GRU compared to a base line model of 46% with Shallow CNN.

### SpaceInvaders using Deep RL

- Implemented Dueling, Double DQN to play Atari Space Invaders game in tensorflow. Dueling DQN learned better hiding strategy than Double DQN when trained for similar duration of time in both RAM and Pixel versions of the game. They achieved an average score of 351.1 and 291.1 respectively.

### Deep RL vs MPC for Path Tracking

- Designed Deep RL based controller for Unicycle vehicle model using the DDPG algorithm to achieve continuous control in PyTorch. DDPG is more robust to action space noise than baseline LTV-MPC algorithm.

### Movie Recommender system

- Implemented user-based K-NN, Latent factor based models like NNMF, SVD to predict movie rating in Movielens dataset. SVD performed better performance in terms of AUC.

### Unsupervised Spoken Term Detection (STD)

- Trained GMM and RBM on MediaEval 2012 STD data set. Latent variables inferred from GMM's and RBM's are used as feature vectors to locate the best match for the query in speech corpus. Average Term Weighted Value increased from baseline performance of 16 (MFCC's) to 33.6 and 34.5 respectively.