

## EDUCATION

### SAN DIEGO STATE UNIVERSITY M.S. IN COMPUTATIONAL DATA SCIENCE

Exp. May 2020 | San Diego, CA  
GPA: 3.7/ 4.0

### UNIVERSITY OF MUMBAI B.S. IN ELECTRICAL ENGG. Aug 2011 - June 2015 | India

## COURSEWORK

### MACHINE LEARNING

Deep Learning  
Machine Learning  
Numerical Optimization  
Parallel Computing

### DATA SCIENCE

Statistical Inference  
Big Data: Tools and Methods  
Techniques of Data Science  
Foundations of Data Science

## SKILLS

### PROGRAMMING

Python • Matlab • C/C++ (basic)

### MACHINE LEARNING

TensorFlow • Keras • Scikit-learn  
PySpark

### DATA & VISUALIZATION

SQL • Pandas • Matplotlib  
Numpy • Seaborn • Scipy

### PLATFORMS

macOS • Linux • Git • Docker

## GITHUB PROJECTS

**Deep Clean** : Python package to clean image and text data.

**Quick ML** : Read ML notes on the fly.

**Data Science 101** : How-to-Guide.

## ACHIEVEMENTS

2018 Tuition Scholarship  
2017 Tuition Scholarship  
2016 Founder @ **ResearchX**  
2013 Editor at KC-Xplore  
2013 Vice-chairperson - IEEE Branch

## EXPERIENCE

### DASSAULT SYSTÈMES | DEEP LEARNING RESEARCH INTERN | PROJECT REPORT

June - Dec 2019 | Boston, MA

- Owned, researched and proposed a novel end-to-end deep learning pipeline for accelerating CFD simulations using super resolution techniques.
- Developed SRCFD, a generalized and platform agnostic framework, based on CNN and GCN, that can super resolve coarse-to-fine simulations.
- Extended SRCFD to unstructured meshes using graph convolution network.
- Developed different architectures in SRCFD using Tensorflow.
- Built and generated in-house dataset for Dassault Systemes.
- Built custom docker images and dockerfiles to dockerize applications and tools.
- Laid foundation for long-term and short-term future research in ML for CFD.

### HERE TECHNOLOGIES | ANALYST

2016 - 2017 | Mumbai, India

- Worked as GIS Analyst in data-processing team.

### RAMAN RESEARCH INSTITUTE | RESEARCH ASSISTANT

2015 - 2016 | Bangalore, India

- Worked on parallelizing signal processing algorithms (FFT/DFT). A speed up of around 70% in time and a decrease in 30% resource utilization was accomplished.

## RESEARCH

### COMPUTATIONAL SCIENCE RESEARCH CENTER, SDSU | RESEARCH ASSISTANT

Aug 2017 - May 2019 | San Diego, CA

- MS Thesis: Models for propagating Facilitation in the Insect Visual System.
- Built mathematical models of network of neurons and astrocyte cells in Matlab.
- Studied facilitation mechanism, calcium dynamics in biological cells and analyzed gigabytes of data in Matlab.
- Carried out comprehensive parametric study of our models and thus characterizing facilitation in visual system.

## PROJECTS

### IMAGE RECOGNITION USING CNN | COMPUTER VISION (CODE | REPORT)

- Built 5 different Convolutional Neural Networks using Keras and TensorFlow to classify 70,000 fashion images into 10 labels.

### BAYESIAN OPTIMIZATION | NUMERICAL OPTIMIZATION (CODE | REPORT)

- Built an hyperparameter optimization algorithm that finds better hyperparameters for machine learning models in smaller number of steps than random or grid search.

### PARALLELIZED DEEP LEARNING | PARALLEL COMPUTING (CODE | REPORT)

- Accelerated deep learning training process by using data based parallelism using MPI and achieved 50% improvement in training time with parallel model.

### CHURN PREDICTION | DATA SCIENCE (CODE)

- Built different ML models: SVM, Tree based models, logistic regression for predicting customer churn rate using PySpark and Scikit-learn.

### NEURAL MACHINE TRANSLATION | NLP/ DEEP LEARNING (CODE | REPORT)

- Developed an Machine translation pipeline using recurrent neural networks: simple RNN, RNN with Embedding, Bidirectional RNN, Encoder-Decoder RNN.