

RAJ VIPANI

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EDUCATION

Boston University, Boston, MA

Expected January 2021

Master of Science, Electrical and Computer Engineering (Specialization in Data Analytics)

Relevant Courses: Introduction To Learning From Data, Image and Video Computing, Computational Tools For Data Science, Deep Learning, Design By Software, Optimization Theory and Methods.

Heritage Institute of Technology, Kolkata, India

July 2018

Bachelor of Technology, Electrical Engineering (CGPA: 8.68/10.00)

WORK EXPERIENCE

Boston University Software & Application Innovation Lab

May 2020 – Present

Software Engineer Intern

- Developed web applications using AngularJS and Google Firebase to collect and annotate crowd-sourced data to analyze underlying semantic patterns in the American Sign Language.
- Implemented authentication, database querying services, and client-side UI and functionalities for the application.
- Utilized Firebase serverless functionalities and cloud infrastructure to develop logging and increase the availability and maintainability of the applications.

Tata Consultancy Services Ltd.

July 2018 – May 2019

Assistant Systems Engineer

- Developed Hardware-in-Loop Test Models with the help of block diagram programming for testing electrical control units used in the process of manufacturing automobiles.
- Lead and Managed a team of 8 to create an end to end Flight Management System implementing agile methodology of software development in the .Net Framework using C#, Structured Query Language and basic HTML/CSS.

Signals and Systems Laboratory, Heritage Institute of Technology

April 2017 – May 2018

Research Assistant

- Developed algorithms for classification and analysis of biomedical signals using machine learning techniques.
- Published 5 research papers in the proceeding of IEEE conferences and international journals.

PROJECTS

Machine Learning From Scratch (MATLAB)

Spring 2020

- Implementation of K-Nearest Neighbors, Perceptron, K-Means Clustering, Logistic Regression and Adaptive Boosting algorithms from scratch.

<https://github.com/rajvipani/MachineLearningFromScratch>

Content Aware Image Resizing (Python)

Spring 2020

- Implemented the seam carving algorithm in python to resize images while leaving other important contents intact. Also, implemented automatic removal of objects from images using a Mask RCNN.

Campaign Finance Scorecard (Python)

Spring 2020

- Collected data from 3 sources and implemented visualizations to analyze relations between campaign donations by individuals from specific industries to state representative candidates of Massachusetts.

<https://github.com/rajvipani/CampaignFinanceScorecard>

Finance Management Application (Java, Firebase, Android Studio)

Fall 2019

- Developed an android application for a user to manage their day to day expenses.

<https://github.com/rajvipani/FinancialApp>

Prediction of Stock Value Using NIFTY 50 Market Index and REF-Kernel Based Support Vector Regressor

- International Journal of Advance Research in Science and Engineering. Volume – 07, Special Issue – 03; April 2018.

http://www.ijarse.com/images/fullpdf/1523725964_404IJARSE.pdf

SKILLS AND TECHNICAL PROFICIENCIES

Programming Languages: Python, JavaScript, C++, Structured Query Language, NoSQL, HTML/CSS.

Frameworks and Libraries: MATLAB, PyTorch, Pandas, Scikit-learn, Scipy, AngularJS, OpenCV, Android Studio, Firebase, Object Oriented Programming, Git.

LEADERSHIP EXPERIENCE

- **MS Ambassador for ECE, Boston University**, Peer mentor the incoming batch of MS students and focus on hints for academic success and adjusting to life at Boston University. **August 2020 – Present**
- **Class Representative**, Students Council of Heritage Institute of Technology. **2014 – 2016**