BHUSHAN SUWAL

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EDUCATION

Bachelor of Science in Computer Science   *May 2019*
Tufts University, Massachusetts
Selected Coursework: Reinforcement Learning, Probability, Statistics, Numerical Linear Algebra, Math of Data Analysis, Natural Language Processing, Algorithms, Multivariable Calculus

Metric Geometry and Gerrymandering Group, MIT/Tufts
Incoming Summer Fellow   *June 2019-July 2019*

- As an incoming Voting Rights Data Institute Fellow, I will be working on a mathematical modeling project to detect and fight gerrymandering.

EXPERIENCE

Raptor Maps, Inc - Somerville, Massachusetts
Machine Learning Intern   *May 2018-August 2018*

- Implemented a suite of machine learning evaluation metrics into production

- Designed and implemented the database architecture and representation to train, store and predict using computer vision models

- Designed and ran statistical experiments to realize the optimal quantity of training data for a model before diminishing returns are observed

Software Engineering Intern   *June 2017-August 2017*

- Built an image upload data pipeline for the web app to upload images and migrated it from its earlier version into production. As of February 2019, this pipeline has ingested about 1 million images.

- Implemented image visualization tools for thermal images using Python and React

- Made 90%+ speed improvements on the loading times of parts of the web app

SELECTED PROJECTS

Unsupervised Clustering for Hyper-Spectral images   *November 2018 - Present*

- Research with Prof James Murphy at Tufts University on the use of spectral clustering and active learning methods for high-dimensional images

Improving Sentences with Online Policy Gradient Methods   *December 2018*

- Investigated the use of policy gradient methods to remove developer defined biases in a natural language processing model.

Nanotorrent   *April 2018*

- Built a toy bittorrent network that supported synchronous file transfer of multiple files across multiple users. Built using Python and Bash.

SKILLS

Languages: Python, C++, C, Javascript, Matlab, Bash, HTML5/CSS
Databases: MySQL, MongoDB
Tools: Git, SublimeText, Vim
Technologies: AWS, PyTorch