

# Nischal Mahaveer Chand

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## EDUCATION

### NORTHEASTERN UNIVERSITY, Boston, MA

College of Computer and Information Science, GPA: 3.76/4.0

*Candidate for Master of Science in Data Science*

Teaching assistant positions: DS5110 (Spring 2019) and CS6220 (Summer 2019)

Activities: Speaker for Khoury Graduate TechTalk, Presenter at NUViz 2019

Sept. 2017 - present

Expected graduation: August 2019

### ALLIANCE UNIVERSITY, Bengaluru, India

College of Engineering and Design, CGPA: 3.4/4.0

*Bachelor of Technology in Computer Science Engineering*

Activities: Coordinator of CodeWars, Member of DevMetric, Member of Linux Club

Aug. 2013 - June 2017

## TECHNICAL KNOWLEDGE

**Languages:** R, Python, Java, C/C++, SQL

**Python Related:** numpy, pandas, matplotlib, sklearn, scipy, bokeh, plotly, PyTorch, Tensorflow, Keras, NLTK, sklearn, seaborn

**R Related:** tidyverse, ggplot2, caret, shiny, randomforest, kableExtra, Rcpp, haven, leaflet, r2d3, parallel

**Tools and IDEs:** git, Docker, flask, Weka Explorer, RStudio, Jupyter Lab, IPython Notebook

## WORK EXPERIENCE

### Marcus Institute for Aging Research, Hebrew SeniorLife, Roslindale, MA

July 2018 - Dec 2018

*Co-op Student/Junior Data Scientist*

- AD Supplement:** Performed regression analysis in R on high-dimensional data to find links between cerebrovascular mechanisms and Alzheimer's related dementia. Actively communicated results and findings to senior researchers.
- Smartphone project:** Migrated existing data processing pipeline from Matlab to R. New pipeline responsible for fetching patient sensor data from central servers, processing and generating metadata (walk analysis using signal processing techniques), storing data and metadata on local MySQL server, and generating dynamic patient reports.
- shinyMRI:** Created a R-based "Shiny" module to visualize and dive-into 3D and 4D MRI imaging data within a web-browser. The package received an Honorable mention in RStudio's first Shiny contest (April 2019).

## ACADEMIC PROJECTS

### Dynamic mass spectrometry imaging data visualization in R

May. 2019 - current

- On-going project under Dr. Kylie Bemis (author of "Cardinal" package) to enable dynamic visualization of MSI data and analysis results within *Cardinal* using R "Shiny" dashboards and D3.js.

### MURA - Bone X-ray image classification and visualization project

Jan. 2019 - Apr. 2019

- Trained hierarchical CNN model to classify X-ray images as normal or abnormal using the Stanford MURA dataset.
- Created dynamic visualization to show activation mapping using GradCAM technique to see what our model is seeing to predict make a prediction and visualize the change in region of focus over training iteration using D3.js and Javascript.
- Deployed models and visualizations on EC2 instance and created a Python rest API using Flask to provide real-time prediction and activation maps for uploaded images.

### NL2code - Natural Language to code generator

Jan. - Apr. 2018

- Created a neural machine translation system to convert single line comments to code in Python using Theano and TensorFlow. The final model achieved a BLEU score of 74.3, an improvement over our Base model score of 73.2.

### Flashlight - Property Assessment Visualization for the City of Boston

Oct. - Dec. 2017

- Created R Shiny Application that helps users visualize various aspects of property assessment for the city of Boston, using R for data visualization and interactive dashboard, along with Python for data cleaning and data transformation.

### Movie Recommendation System

Feb. - June 2017

- Implemented a Recurrent Neural Network using TensorFlow in Python to recommend movies to a user. By analysing the sequence of movies reviewed, we were able to achieve high scores both in accuracy and peer review.

## HONORS AND ACHIEVEMENTS

- Presented *MURA visualization tool* at The Northeastern University Visualization Consortium. Apr. 2019
- Honorable mention for *shinyMRI* in RStudio's first Shiny contest. Apr. 2019
- Graduate speaker for TechTalks at Grad TechDay, Khoury College. Mar. 2019
- Coordinated and organized CodeWars, a 24-hour hackathon as part of university fest at Alliance University. Oct. 2015