

# Nischal Mahaveer Chand

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## EDUCATION

### NORTHEASTERN UNIVERSITY, Boston, MA

Khoury College of Computer Sciences, GPA: 3.76/4.0

Sept 2017 - present

*Candidate for Master of Science in Data Science*

Expected graduation: August 2019

Related Courses: Supervised Machine Learning, Unsupervised Machine Learning and Data Mining,  
Information Visualization, Natural Language Processing, Statistics for Bioinformatics, Algorithms

Activities: Speaker for GradTech Day; Presenter for NUVis; Founding member of the Data Science Hub

### ALLIANCE UNIVERSITY, Bengaluru, India

College of Engineering and Design, CGPA: 3.4/4.0

Aug 2013 - June 2017

*Bachelor of Technology in Computer Science Engineering*

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

## TECHNICAL KNOWLEDGE

<b>Languages:</b>	R, Python, Java, C/C++, SQL
<b>Python Related:</b>	numpy, pandas, matplotlib, sklearn, scipy, TensorFlow, XGBoost, PyTorch, Keras, NLTK
<b>R Related:</b>	tidyverse, caret, shiny, kableExtra, r2d3
<b>Tools and IDEs:</b>	git, Docker, flask, Weka Explorer, RStudio, Jupyter Lab, IPython Notebook, Tableau

## WORK EXPERIENCE

### Khoury College of Computer Sciences, Northeastern University, Boston, MA

Jan 2019 - current

*Graduate Teaching Assistant* - DS5110 (Spring 2019) and CS6220 (Summer 2019)

- Create rubric and grade assignments, exams, and projects.
- Hold regular office hours and moderate online discussion forums.

### 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 sensor data from central servers, processing data and generating metadata based on walk analysis using signal processing techniques, storing data and metadata on local MySQL server, and generating dynamic patient assessment reports.
- *shinyMRI*: Created an R "Shiny" module to visualize and dive-into 3D and 4D MRI imaging data within a web-browser.

## ACADEMIC PROJECTS

### CardinalVis - Dashboard for dynamic visualization of Mass Spectrometry Imaging (MSI) experiments

May 2019 - current

- Create, test, and build application for visualizing MSI experiments performed with "Cardinal" package in R.
- Created modules to wrap functionality of Cardinal in a user-friendly dashboard using R "Shiny" and shinydashboard.

### 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 PyTorch and torchvision in Python.
- Created dynamic visualization of activation mapping over training iteration for x-ray images using D3.js and Javascript.
- Created RESTful API service to provide real-time classification and activation maps using Flask-RESTful in Python.
- Deployed application, models, and visualization to Amazon EC2 instance for improved user interaction.

### NL2code - Natural Language to Python code generator

Jan 2018 - Apr 2018

- Scraped open-source Python repositories to gather training data of code-comment pairs using BeautifulSoup in Python.
- Perform syntax and semantic analysis on raw data in Python using NLTK; Perform canonization of all input pairs in Python.
- Tested and trained neural machine translation models for general purpose Python code generation in Python using Theano.
- Improved BLUE score over base paper by augmenting semantic information to feature embedding of encoder.

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

Oct 2017 - Dec 2017

- Created dashboard to visualize various aspects of property assessment values using R "Shiny" and Leaflet in R.
- Geocoded missing coordinate values using Open Address dataset and Google Maps Geocode API in Python.
- Created Python scripts to automate conversion of Zillow's shapefiles to GeoJSON format and gathering of meta-data.

### Movie Recommendation System

Apr 2017 - 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 in peer review.