Nischal Mahaveer Chand

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EDUCATION

NORTHEASTERN UNIVERSITY, Boston, MA

College of Computer and Information Science, 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

Languages:	R, Python, Java, C/C++, SQL
Python Related:	numpy, pandas, matplotlib, sklearn, scipy, TensorFlow, XGBoost, PyTorch, Keras, NLTK
R Related:	tidyverse, caret, shiny, kableExtra, r2d3
Tools and IDEs:	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)

- Creating rubric and grading assignments, exams, and projects.
- Holding office hours for students and manning 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 - Apr 2018

- Scraped open-source Python repositories to gather code-comment pairs as data 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 - 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 - 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.