Nilay Kapadia

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EDUCATION

North Carolina State University GPA: 3.6/4.0
Master of Computer Science, May 2017- May 2019
Courses: Design and Analysis of Algorithms, Operating Systems, Software Security, Advanced Data Structures, Object Oriented Design and Development, Software Engineering

Sardar Vallabhbhai National Institute of Technology, Surat, India GPA: 8.18/10.0
Bachelor of Technology in Computer Engineering, July 2013 - May 2017

TECHHNICAL SKILLS

C/C++, Java, Python, Ruby, JavaScript, Tensorflow, Pandas, Hadoop, Spark, R, Kafka, SQL, Kernel Programming, System Programming, Amazon AWS, Google Cloud Platform

WORK/RESEARCH EXPERIENCE

Advanced Data Science Intern, ABB Inc. Cary NC May 2018-November 2018

- Developed demand forecasting algorithm to predict YoY demand of different products using Python.
- Developed a proof of concept for graph-based visualization of machine sensors as a graph (comprising of independent IoT sensors as nodes) and storing data generated from theses sensors on different edges for communication between different nodes using Apache GraphX and SparkR, a R based interface for distributed processing for Spark based databases.
- Developed market-based price prediction models to predict prices of transformers based on prices of different components of transformers (such as Cu and iron) as well as socio-economic indicators such as inflation and urbanization.

Summer Research Fellow, Sardar Vallabhbhai National Institute of Technology, Surat May 2016 – July 2016

- Developed an Image Segmentation and Recognition model in **MATLAB** to capture "cloudy" areas in a weather satellite image for prediction of precipitation and other weather parameters.
- Used these segmented images from ISRO satellite image database to develop, train and test a Time Series **Artificial Neural Network** (NAR and NARX) Model which was used to predict weather parameters.
- Published a research paper in IJCSIS and received a Summer Research Fellow award.

RELEVANT PROJECTS

Machine Learning and Computer Vision: Developed an Android application which used Machine Learning and Computer Vision to detect (in real time) a distracted driver using the phone's camera. A modified VGG16 model using CNN was implemented in Python using Keras. The training of the model was done on AWS, over 100,000 images.

Yelp-Dataset Pipeline: Developed a big-data pipeline to analyse yelp restraint review data using distributed computing in **Amazon AWS**. The data ingestion layers consists of a **S3** bucket with a **RDS** layer for querying. An **Apache Spark** layer is used to perform low-level analysis and mapping for ingestion in **ElasticSearch** with visualization in **Kibana**.

OpenMRS Vulnerability testing: Discovered vulnerabilities and bugs in OpenMRS, an open-source health application, using black-box testing and unit-testing as well as developed security solutions to mitigate future vulnerabilities.

Natural Language Processing: Developed a classifier to classify descriptions of lawsuits into its "types" specifically the US Legal Taxonomy system. **SVM** was the primary classification algorithm. It was further optimized using **Grid Search**. This was implemented in Python with a **Tensorflow** back-end with an accuracy of 81.23%.

EXTRA CURRICULAR

Hobbies and Other Interests: Always eager to learn a new language(spoken). Currently holding an intermediate level certificate in German language awarded by the Goethe-Institut, Germany and was also awarded a scholarship for a linguistic and cultural exchange program to Germany.