Sneha Iyengar

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Master's student with industry experience in developing scalable web applications and hands on training in Big Data Analytics. Proficient programmer and enthusiastic learner with strong work ethic seeking full time opportunities in Software Engineering starting June 2016

Professional Experience

InterDigital Inc. — **King Of Prussia, PA**
Software Development Intern — *May 2015 – Ongoing*
- Member of the core technical team that develops Internet Of Things (IoT) solutions and prototypes
- Conceptualized and architected a cloud based simulation tool for the IoT platform; Developing a Web IDE to build and run Machine-To-Machine applications on virtual devices
- Technology stack comprises of Django, Javascript, OpenStack, Apache, WebSockets and HTML5 Canvas

Indian Space Research Organization — **Ahmedabad, India**
Research Intern — *Jan 2014 – Apr 2014*
- Proposed an algorithm for land use classification of remotely sensed Synthetic Aperture Radar (SAR) and Optical images; Performed preprocessing, data fusion, and classification on multi-parametric datasets
- Improved the accuracy of detection of cotton and pulses by 30%; Research paper outlining the results has been submitted

Indusa Infotech Ltd. — **Ahmedabad, India**
Web Development Intern — *Aug 2013 – Sep 2013*
- Developed a pharmaceutical data module, as part of a hospital management software, using JavaServer Faces, Hibernate and MySQL; All code was tested and pushed to production

Education

Georgia Institute Of Technology — **Atlanta, GA**
Masters in Computer Science, GPA: 3.87/4.0 — *2014 – 2016*

Nirma University — **Ahmedabad, India**
Bachelors in Information Technology, GPA: 9.28/10 (Gold Medalist) — *2010 – 2014*

Technical Experience

Patient Similarity Using Graph Based Approaches
Big Data Analytics, Graph Computations — *Spring 2015*
- Constructed million node patient graphs from standardized healthcare datasets using PostgreSQL, GraphX and Spark
- Coded and compared the performance of various vertex based similarity metrics; Deployed the system on Amazon EMR and fine-tuned its performance in terms of time and memory requirements
- Achieved an accuracy of 0.91 in mortality prediction performed using K-Nearest Neighbor method

Data Migration Tool
Advisor: Dr. Jimeng Sun (College Of Computing) — *Spring 2015*
- Assisted researchers by developing an Extract-Transform-Load tool using Python and PostgreSQL; Converted more than 20 million records from multiple healthcare databases to the standardized format (OMOP-Common Data Model)
- This tool was used in the breakthrough research work on Clinical Predictive Modeling conducted at SunLab, Georgia Tech

Predicting Mortality Using MapReduce Framework
Big Data Analytics, Supervised Classification — *Spring 2015*
- Preprocessed semi-structured medical data and implemented Logistic Regression with Stochastic Gradient Descent
- Applied 10-fold cross validation and trained multiple classifiers in parallel using Hadoop; Attained an accuracy of 0.82

Implementation of Parallel Algorithms
High Performance Computing, Parallel Programming — *Spring 2015*
- Programmed parallel algorithms in C and MPI to solve the motif-finding problem (genetics), Jacobi method for linear equations and Quick Sort; Analyzed speedup on Georgia Tech's high performance JINX cluster

- **"Stack Experts", a visualization tool for StackOverflow**
  Regression Analysis, Data Visualization *Fall 2014*
  - Built a web application using primarily D3 and Javascript in the frontend and Python and SQLite in the backend to visualize and analyze Stackoverflow data
  - Engineered features from more than 10 million questions and over 40k tags and built predictive models for the average response time; Created visualizations for response time as a polar chart, popular tags as a radial tree and global tag-wise reputation as a 3-D globe

- **Analysis on Collaborative Computing in Github**
  Social Network Analysis, Natural Language Processing *Fall 2014*
  Implemented a crawler in Python using Snowballing method to extract repositories from GitHub that have a high emotional content to find:
  - The correlation between 'happy' and 'angry' commit messages to repository activity and to programming languages
  - The relation between the level of professionalism of a project and the emotion quotient of commit messages

- **SMS Spam Filtering**
  Feature Engineering, Supervised Classification *Fall 2014*
  - Cleansed the data, extracted features and classified the text messages using Naive Bayes and Linear Support Vector Machine (SVM) to differentiate spam and ham messages
  - Attained best accuracy of 97.61% for Multinomial Naive Bayes Classifier using parts-of-speech as features

Technical Skills

- **Programming Languages:** (Working Knowledge): C, Java, Python (Basic Knowledge): C++, Matlab
- **Web:** HTML, CSS, Javascript, Django, AJAX, JSP, JSF, Hibernate, D3
- **Map Reduce:** Apache Spark, GraphX
- **Database:** MySQL, PostgreSQL, SQLite
- **Miscellaneous:** WEKA, Tableau, Gephi, Amazon Web Services, Microsoft Azure, OpenStack, Git

Awards And Achievements

- Received the Dewang Mehta IT Award for being State Topper in 2014
- Awarded Gold Medals for first position for three consecutive academic years (2011 - 2014)
- Secured 1st position in paper presentation on the topic of Sentiment Analysis in IEEE's 'Technodyssey'
- Won prizes in State Level and District Level Karate Tournament

Publications

- **Clinical Predictive Modeling Development and Deployment through FHIR Web Services**
  American Medical Informatics Association *Selected*
- **Investigation on Data Fusion of SAR and Optical Images for Classification of Agricultural Regions**
  International Journal of Image and Data Fusion *Submitted*

Extra-Curricular And Volunteer Activities

- **Bike-Safe - Predicting risk of biking routes**
  Advisors: Adam Martin (Code for America), Bethany Kell (Duke University) *HackDuke 2014*
  - Led my team to 2nd position in the Microsoft challenge at HackDuke
  - Worked with 'Code for America' to develop a tool for policy makers to reduce deaths caused by biking

- **E - Practice Management System for Balaji Clinic**
  Ahmedabad, India *Sophomore Year*
  - Designed and developed a system for routine patient data management using JSP, HTML, CSS, JavaScript and MySQL

- **Indian Society for Technical Education**
  Ahmedabad, India *Freshman Year*
  - Organized and hosted the Web App Hackathon, Spelling Bee and Company Logo and Slogan Quiz

- **English tutor for underprivileged children at Missionaries of Charity**
  Ahmedabad, India *Apr 2013 - Aug 2014*

- **Math tutor for underprivileged children at Vishwakshema Trust**
  Mysore, India *Freshman Year*

- **'I Hate You Fat Cell' – A short essay published in the magazine, Youth Connect**