Sampurna Ravindranathan
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EDUCATION

Master of Science in Computer Science   **CGPA of 3.85**
University of Cincinnati, Ohio   August 2015 - May 2017
Graduate Certificate in Data Science, Linder College of Business   December 2016
Relevant Coursework
   Cloud Computing, Machine Learning, Intelligent Data Analysis, DataBase Theory, Data Mining , Statistical Computing
Master's Thesis (in progress)
   Identifying players showing similar physiological patterns (during a game) using versatile subspace pattern mining in 3D datasets.

Bachelor of Technology in Electronics and Communication   **CGPA of 8.61**
Amrita Vishwa Vidyapeetham, India   May 2010 - May 2014

EXPERIENCE

NSF I/UCRC Center for Intelligent Maintenance Systems (IMS), Cincinnati, Ohio   June 2016 - Present
Graduate Research Assistant
   Sports Medicine
   - Designing a performance metric for soccer players to determine their fitness/ fatigue levels using physiological parameters like Heart Rate, Breath Rate, Speed, ECG Amplitue.
   - Developed data cleaning, visualization and analysis (Clustering) modules using MatLab.
   Cloud based Prognostic Health Management System.
   - Implementing algorithms for PHM System in cloud platform.
   - Developed Support Vector Machine, Gaussian Mixture Model Algorithms, Logistic Regression to assess real time data from test bed to run on a cluster.
   Tools Used : Python, Apache Spark, MLLib, Scikit-learn, Matlab
Research Activities
   - *Teaching Assistant* under Dr. Jay Lee for the course "Industrial Big Data Applications-An Introduction"
   - Guest presenter at the MFPT Conference, Dayton 2016.
   - Conducted a training session in Machine Health Diagnosis Methods for visitors from Institute for Information Industry, Taiwan
   - Attended MTConnect Boot Camp at MAZAK, KY.

Siemens Corporate Research, Bangalore, India   July 2014 - May 2015
Research Intern
   Predictive Analytics on High Dimensional Industrial Data.
   - Developed a module in Simatic WinCC (Automation Tool) to perform dimension reduction and data visualization using Principal Component Analysis and Partial Least Squares concepts.
   Outlier Detection on Gas Turbine Data
   - Analyzed offline Gas Turbine Data and identified suitable methods for fault detection. **Statistical models** using histograms, box plots and distribution curves developed.
   Tools Used : Matlab, C, S7-1200 Programmable Logic Controller, TIA, WinCC.

PROJECTS

- Teradata University Network's data challenge to analyze the impact of social media and online presence on fund raising using Facebook, Twitter and LinkedIn data. Used data visualization techniques and histograms to find correlation between Ad campaigns and funds raised through donations. (Excel and Tableau)
- Incorporated Logistic Regression, SVM and Naive Bayes algorithms to identify most influential parameters in predicting success of local businesses and usefulness of a review using Yelp's Academic Dataset. (Matlab and Python)
- Implemented a basic **tf-idf** program to calculate the term frequency of words in a given document, in MapReduce. (Spark and Hadoop)
- Developed a classifier for a Multimodal Biometric System to fuse two human traits - iris and fingerprint. Classifier was trained using **Cuckoo Search Optimization.** (Matlab and Image Processing Toolbox)

PUBLICATIONS

- Paper titled "Statistical KPI's in HMI Panels" presented in International Conference on Green Computing and Internet of Things, India, 2015, October 8th - 10th.
- Paper titled "Multimodal Biometric Score Fusion using Cuckoo Search Algorithm" presented in the 5th National conference on Recent Trends in Communication and Signal Processing 2014, Coimbatore.

TECHNICAL SKILLS

Programming Languages : Matlab, Python, C/C++, SQL *Big Data*
Ecosystems : Hadoop, Apache Spark, MapReduce
Platforms : Tableau(Proficient), SAS, Amazon Web Services (AWS)