Suramrit Singh

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EDUCATION

UNIVERSITY AT BUFFALO

State University of New York

Master of Computer and Information Science

Dec 2016 | Buffalo, NY
Cum. GPA: 3.5

NATIONAL INSTITUTE OF TECH.

Bachelors in Technology

Comp Science and Engg.

July 2014 | Srinagar, India

Major GPA: 8.5 / 10.0

LINKS

Github:// **suramrit**

LinkedIn:// **suramrit**

PROGRAMMING

• Proficient:

Java | JavaScript | Python | R

• Familiar:

Scala| HTML |js D3 | Hive | Pig | PHP | JQuery | Matlab | Unix

CSS | C | C++ | SQL

• Previous Experience:

Codeigniter| OpenCV | C#.NET

TECHNOLOGIES

• W3C:

RDF Framework | Web Ontology Language | Stanford Protege' | REST

• Environments:

Android SDK | Solr | Hadoop MapReduce | mongoDB

• Amazon Web Services:
S3 | EC2

•Python:

NumPy | SciPy | Pandas

PROJECTS | RESEARCH | EXPERIENCE

UNIVERSITY AT BUFFALO | RESEARCH ASSISTANT | Team Leader
June 2016 – August 2016 | Buffalo, NY

- Environment: Java,JavaScript,Python,PHP
- Collaborated with undergraduate summer research associates in delivering full stack web based application for acquisition of data for representing human genealogical information
- Designed framework for representing data semantically
- Worked on continuous reviews of code, maintaining technical deliverables

DIGITAL CHOREOGRAPHIC LINEAGE | Research Project
June 2016 – Present | Buffalo, NY

- Environment: JavaScript,RDF,SQL,NoSQL,Python,PHP
- Worked with Dr Bina Ramamurthy on R&D of knowledge representation of Human genealogical data semantically for Natural Language querying and data visualization.Publication pending
- Responsible for technical ideas and data work-flow and extraction of domain specific features for back end services improvement (saving rendering and querying time)
- Successfully rendered visual representation of networks using JavaScript D3 and custom built libraries for processing RDF structures.

ARICENT TECH | Software Engineer
Dec 2014 – May 2015 | Gurgaon, India

- Environment: Java,C,C++,Unix,GIT,Networking, Back end Services
- Designed and implemented a DHCP client-server over a distributed network.
- Mobile 4G-LTE network simulation. End to end call and data consistency validation.
- Simulated data was used as POC for development of proprietary technology within the organization.

INDIAN INSTITUTE OF SCIENCE | Research Intern
Dec 2013 – March 2014 | Bangalore, India

- Environment: JavaScript,C#, Embedded Interfacing
- Designed and implemented a data analysis interface for a plantar pressure measuring system using Fiber Bragg Grating sensor
- Achieved live monitoring of pressure data for pathological and physiological observations.
- The interface was a critical part for the Proof of Concept of the system.

PROJECTS

CLASSROOM SCHEDULING ANALYSIS

- Environment: R,Hadoop EMR, Amazon/AWS, Machine Learning, R, Tableau, KNN, Centrality Measures
- Hosted MapReduce on Hadoop with Amazon AWS for extraction and analysis of classroom scheduling data at the University at Buffalo for optimization.

FAULT TOLERANT DISTRIBUTED FILE SYSTEM IN ANDROID OS

- Environment: Android/SDK,Mobile, Java, Networking, NoSQL
- Designed and developed a mobile distributed file system with consistency guarantees, based on Amazon Dynamo, for android devices over networks with non-byzantine faults

COURSEWORK

GRADUATE

Distributed Systems
Data Intensive Computing
Machine Learning/AI
Data Mining
Information Retrieval
Algorithm Design and Analysis
Wireless Communication
Cognitive Science (Research)
Software Engineering

WEB APPLICATION FOR ANALYSIS OF LARGE TWITTER DATA

- Environment:JavaScript,Java,Solr,NLP,PHP
- Developed full stack implementation of web application for analysis of indexed twitter data using solr for faceted and graphical analysis utilising Natural Language Processing and Alchemy API in Solr.

WEB APPLICATION FOR MERCHANT – CLIENT E-COMMERCE

- Environment:PHP,Java,JavaScript,CodeIgniter
- Designed and developed a multi merchant PHP web application , UBsMart, for exchange of second hand products between University at Buffalo students.

GENOMIC DATA WAREHOUSE WITH SUPPORT FOR OLAP AND STATISTICAL OPERATIONS

- Skills: Data Warehousing, Machine Learning, Data Analytics, Big Data, Data Mining, Front End, Centrality Measure Analysis, OLAP, Database Management
- Environment: CherryPy, SciPy, NumPy, Python, Java, HTML, Schema Design, MySQL
- Designed and Implemented clinical data warehouse with improved schema design to support OLAP ops like roll-up, drill down, slice, dice and pivot.
- The schema also allowed for statistical analytical operations like t-test, ANOVA and correlation analysis.
- The warehouse was designed with an easy to use cheery-py python web interface.

PERFORMANCE EVALUATION OF CLUSTERING ALGORITHMS FOR STUDYING GENE EXPRESSION PROFILES

- Skills: Machine Learning, Data Analytics, Big Data, Data Mining, Clustering, OLAP, Database Management
- Environment: SciPy, NumPy, Python, Java, MySQL, Hadoop Map Reduce, Tableau, R
- Implemented different clustering algorithms - K Means, Hierarchical Agglomerate clustering, Density based clustering for performance evaluation
- Also implemented K Means clustering on Hadoop infrastructure.
- The algorithms were evaluated to their sensitivity to algorithmic parameters, runtimes, visualization of clustering results and external performance metrics like jaccard coefficient, rand coefficient.

ENSEMBLE MACHINE LEARNING AND ITS PERFORMANCE EVALUATION FOR GENOMIC DATA

- Skills: Machine Learning, Data Analytics, Big Data, Data Mining, Decision Trees, Random Forests, Ensemble Learning, Classfication
- Environment: SciPy, NumPy, Python, Java, MySQL
- Implemented different classification algorithms: KNN, Naive Bayesian Classification and decision trees with Random Forests and Boosting for their performance evluation
- The algorithms were tested for their sensitivity for parameters using measures like Accuracy, Precision, Recall and F-1 Measure as well as response to different data set types (nominal vs continous)

ANALYSIS OF REAL ESTATE TRENDS IN NEW YORK CITY

- Environment: Java, Python, R, R Shiny, Tableau, Twitter API, REST, NoSQL
- Analysis of Real Estate trends in New York city using R, Tableau
- Analysed different boroughs for property evaluations, rental trends and market prediction.
- Augmented analysis with sentiment analysis of probable buyer tweets in real time.

DATA ANALYSIS AND ACQUISITION FOR CUSTOMER LIFETIME VALUE EVALUATION

- Environment: Java, NoSQL, Redis, Jedis, Distributed System, Data Analysis, Schema Design
- Desgined Data pipeline for data acquisition and analysis for estimating the profitable lifetime value of a customer
- Used Distributed Redis data store with Jedis for storing user data in a thread safe, consistent and low latency environment.
- NoSQL solution with high scalability and fault tolerance.