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Shagun Jhaver

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Education

- **Master of Science in Computer Science** — Expected Dec 2014
  The University of Texas at Dallas, Richardson, Texas — *GPA: 3.959/4*
  Thesis: Statistical Classification and String Manipulation Algorithms using MapReduce
- **Bachelor of Technology in Electrical Engineering** — August 2010
  Indian Institute of Technology (IIT) Bombay, Mumbai, India — *GPA: 7.46/10*

Relevant Coursework & Programming Skills

- Design and Analysis of Computer Algorithms
- Artificial Intelligence
- Advanced Database: Big Data Analytics
- Probabilistic Graphical Models
- Database Design
- Machine Learning
- Natural Language Processing
- Automata Theory
- Discrete Mathematics
- Operating Systems Concepts

Languages: Python, Java, C++ **Operating Systems:** Linux, Windows
Miscellaneous: Hadoop, MapReduce, Pig Latin, Hive, Mahout, Cassandra, MySQL, Git, MATLAB

Research Projects

- **Brown University** — Providence, Rhode Island
  Distributed memory abstraction — *May 2013 - June 2013*
  - ➢ Constructed a new system for **Big Data** Analytics using LLVM and Julia.
  - ➢ Performed in-memory computations on large clusters in a fault-tolerant manner.
- **Institut National De Recherche En Informatique Et En Automatique** — Paris, France
  Hybridization Methods for the analysis of Biomolecular Networks — *May 2009 - July 2009*
  - ➢ Proposed a new mathematical model to calculate *Violation Degree*
  - ➢ Composed a **MATLAB** library to implement this model
  - ➢ Increased the calculation speed of *Violation Degree* by about 30 times
  - ➢ Fashioned the library to guide the search for models satisfying a given specification.
- **The University of Texas at Dallas** — Richardson, Texas
  Calculating Edit Distance using MapReduce — *Aug 2013 - Dec 2013*
  - ➢ Investigated the parallelization of calculating edit distance for a large set of strings.
  - ➢ Devised and implemented algorithms tailored to MapReduce.
  - ➢ Analytically and experimentally confirmed their superiority over dynamic programming approaches.

Academic Projects

- **Computational Framework for characterizing politeness** — *Aug 2013 - Dec 2013*
  Guide: Prof. Yang Liu & Prof. Latifur Khan
  - ➢ Built politeness classifiers using different **machine learning** algorithms, filters and features.
  - ➢ Used politeness strategies to improve performance when using **linguistically informed** classifiers.
  - ➢ Employed these classifiers to analyze the politeness of popular blogs.
- **Simulating Nine Men's Morris board game** — *Jan 2013 - May 2013*
  Guide: Prof. Haim Schweitzer
  - ➢ Designed and developed this AI project in **Python** employing alpha-beta pruning algorithm.
  - ➢ **Winner** in the tournament for the game in the class (76 students).

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- Wrote reliable and fast code and devised innovative static estimation algorithms.

- **Comparative analysis of approaches to sentiment analysis of tweets** *Jan 2013 - May 2013*
  Guide: Prof. Latifur Khan
  - Implemented twitter data processing in **Java** to predict the ratings of movies.
  - Employed standard lists of positive and negative words to classify each tweet.
  - Used the sentiment140 api for the classification using **MapReduce**.
  - Created a classification model with naive Bayes method in **Mahout** to classify tweets.

- **Database Design and Implementation Project** *Aug 2012 - Dec 2012*
  - Compiled a conceptual design (EER model) for a large custom City library database project.
  - Developed a relational schema in third normal form for this design.
  - Wrote **SQL** statements to create database, populate tables and solve challenging queries.
  - Assembled the database in Oracle and used a database state to verify the correctness of queries.

- **Date-Intensive Text Processing of White House Visitor Log** *Jan 2013 - Feb 2013*
  - Wrote programs in **Java** and applied Hadoop **MapReduce** chaining to derive statistics.

Professional Experience

- **Research Assistant** Nov 2013 - Present
  Data Management & Data Mining Lab, The University of Texas at Dallas *Richardson, Texas*

- **Software Developer** Jan 2011 - June 2012
  Future Bazaar *Mumbai, India*
  - Head of the *Analytics and Business Intelligence* Team.
  - Designed an architecture to carry out ETL processes.
  - Built the E-commerce platforms for *futurebazaar.com* and *chaupaati.in* using **Django**.
  - Constructed modules for using api's of BI tools.
  - Conceptualized and implemented Order Life-cycle Management, a system to assign and regulate order-states to the order-items using **Python**.
  - Developed an interface for the sellers to track orders, sales summary and product reviews, upload product inventory and edit profile settings.

- **Math Lab Tutor** Jan 2013 - Present
  The Student Success Center, The University of Texas at Dallas *Richardson, Texas*
  - Tutor students at UT Dallas on an individual or group basis.
  - Assist in a variety of subject areas including math, physics and statistics.

Honours

- All India Rank 94 in Indian Institute of Technology Joint Entrance Exam 2006 among 300,000 students.
- Selected from the state for the 4th Invitational World Youth Mathematics Intercity Competition.