## MADHUR GUPTA

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**in**:http://goo.gl/WDFSHJ

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#### **EDUCATION**

Master of Science, Computer Science

University at Buffalo, State University of New York

**Bachelor of Technology, Computer Science & Engineering** 

National Institute of Technology, Calicut, India

**GPA-3.50** *June-2009* 

Dec 2015

#### **COURSEWORK**

Distributed Systems, Operating Systems, Parallel and Distributed Processing, Machine Learning, Computer Networks, Computer Security. **TECHNICAL SKILLS** 

Programming Languages: Core Java, JSP & Servlets, J2EE, Java Web Services, Python, C, C++, R, HTML, JAVA Script, JQuery, Bash.

**Tools & Frameworks**: Git, JUnit, IBM Rational Team Concert, MS SQL, MySQL, Selenium, IBM CQ, Spring, Hibernate, Node.js, Angular.js. **Big Data and Parallel Processing Technologies**: Apache Hadoop, Apache Spark, NVIDIA CUDA.

Integrated Development Environment: Eclipse, NetBeans, Microsoft Visual Studio, R Studio, Android Studio, GNU Debugger.

Networking Protocols: HTTP, DHCP, DNS, FTP, TFTP, SNMP, Telnet, TCP/IP, RIPv1, RIPv2, IGRP, OSPF, ICMP, BGP, Spanning Tree Protocol.

#### **PROFESSIONAL EXPERIENCE**

### CA Technologies, Hyderabad, India

Software Engineer
Associate Software Engineer

Aug 2011 - July 2014 June 2009 - July 2011

## CA Spectrum Infrastructure Manager (C++, Java, JSP, RESTful Web Services, SOAP, Agile Methodology)

- Worked directly with Product Management to gather new feature requirements.
- Designed, estimated and implemented new product features.
- Interacted with QA teams and Performed sustaining of the product, addressed and resolved customer issues.
- Automated Unit test cases and system test cases which resulted in reduced manual testing effort.

#### **ACADEMIC PROJECTS**

### Big Data and Machine Learning: Comparing the Performance of ML Frameworks (Spark, MapReduce, GraphLab)

Fall-2015

• Analyzed Bayesian inference's performance on ML frameworks of Apache Spark, MapReduce, GraphLab on a large data set of Buffalo 311 Call and Resolution Center.

### Operating Systems: OS161 Operating System Development (C)

Spring-2015

- Developed synchronization primitives, support for File and Process system calls, Virtual memory management system.
- Solved Whale Mating and Traffic Light intersection problems using above synchronization primitives.

### Distributed Systems: Amazon Dynamo Style Key-Value Storage (Java, Android)

Spring-2015

- Developed a simplified version of Amazon Dynamo which covers ID space partitioning/re-partitioning, Ring based routing, Node joins, Quorum based replication, recovery from replicated storage after failure.
- The main goal is to provide both availability and linearizability at the same time. In other words, it should always perform read and write operations successfully even under failures, a read operation should always return the most recent value

## Machine Learning: Handwritten Digit Classification (Python, NumPy, SciPy)

Spring-2015

• Implemented Multi-Layer Perceptron Neural Network and Back Propagation algorithm for classification of given MNSIT dataset where pixels of the image are considered as features to the model.

#### Modern Networking Concepts: Remote File Sharing System (C, UNIX Socket API, iPerf)

Fall-2014

- Developed a hybrid of client-server and peer-to-peer architecture for distributed Remote File sharing using Unix Socket Programming in C++.
- Performed network analysis of the system on download rates, upload rates and compared it with iPerf.

### Modern Networking Concepts: Distributed Distance Vector Routing Protocol (C++, UNIX Socket API)

Fall-2014

- Implemented Distance Vector Algorithm (Bellman-Ford) in a distributed scenario where physical hosts acted as routers and they shared their routing information with their neighbor hosts.
- Implemented various commands to accommodate various topology changes to simulate real network scenarios.

#### **PERSONAL PROJECTS**

### **Interactive Programming in (Python)**

Summer-2015

- Implemented various arcade games like Rice Rocks, Pong, Black Jack, Memory.
- Used GUI programming in Python for the development of these games.

#### Data Science using R (R, R Mark Down, R Studio, Slidify, RPubs, ShinyApps)

Summer-2015

- Performed data extraction, regression analysis, statistical Inference and machine learning algorithms on various data sets using R.
- Presented the data and results using Slidify, RPubs and ShinyApps.