

NIKHIL KHANDELWAL

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EDUCATION

University at Buffalo, The State University of New York (SUNY)

GPA: 3.80

Masters of Computer Science,

Expected Graduation: Dec 2014

Sinhgad College of Engineering, University of Pune, India

Bachelors of Technology, Information Technology.

May 2011

COURSEWORK

Analysis of Algorithms, Information Retrieval, Distributed Systems, Machine Learning, Operating System, Data Intensive Computing

SKILLS

Keywords: Object-Oriented Programming, Java, Android, Apache Lucene, Apache Solr, TIBCO, Apache Hadoop, Kernel Programming

Languages: Java, C, JavaScript, Python

Framework and Tools: Spring MVC, Ruby on Rails, TIBCO Active Matrix, Android, MapReduce,

EXPERIENCE

Accenture Pvt. Ltd, Bangalore, India - Software Engineer

July 2011 – July 2013

PROJECTS

Accenture Free Pool Management System, Fall 2011

(Java, J2EE, Struts)

- Using this system, employees could track mark attendance, apply for vacation. Managers could generate lists of employees on free pool, approve vacations requests. Developed the attendance and vacation tracking module for the software.

Middleware module for Mobile Number Portability, October 2012 – July 2013

(TIBCO BW)

- Developed the system to synchronize a MNP request and the subsequent notifications within multiple end systems.
- Also helped design the HTTP request protocols for processing outgoing or incoming MNP requests.

ACADEMIC PROJECTS

NLP based Question Answering System, Fall 2013

(Java, J2EE, Apache Solr, JavaScript)

- Generated a back end from the Wikipedia corpus using Apache Solr and implemented a front end using J2EE technologies.
- The system could handle free text queries. Query processing was done on the queries using the Stanford NLP model.
- Advanced features like spell check and auto complete were also implemented using AJAX and JavaScript.

File Access Control Lists to Unix File System, Summer 2014

(C, UNIX Kernel Programming)

- Added ACLS's to UNIX file system to supplement normal file permissions by allowing you to specify specific user(s) who should have special permissions for a given file, and what those permissions should be.
- Added 3 system calls to the kernel which could take a particular filename and modify the ACL's related to the file.

Adding Process level locks to FreeBSD(UNIX) OS, Summer 2014

(C, UNIX Kernel Programming)

- Implemented a kernel-based locking mechanism for processes. A process could create a lock group or add itself to an existing process group. The processes could then create, acquire and release upto 32 process per process group.
- Added 7 systems calls to the UNIX kernel which could be used by user level programs to manipulate these locks.

Simple Amazon Dynamo - Replicated Key Value Storage Spring 2014

(Android, Distributed Systems, Multithreading)

- Designed and implemented a simplified version of Amazon Dynamo.
- Implemented Quorum replication with replication degree 3 and versioned all objects to differentiate between stale copies.
- Incorporated a functionality for handling node failures and ensured that when any node recovers/rejoins it should be updated with most recent copies.

Data Analysis using MapReduce and Hadoop DFS Spring 2014

(Java, MapReduce, Hadoop)

- Designed and implemented the MR work flows to extract various information from the real time data of Twitter (approx 1GB). For instance: simple word count, # tag counts, @ counts etc.
- Designed and implemented Map and Reduce functionality for parallel breadth first search algorithm.
- Implemented K-means clustering using Hadoop MapReduce.

Handwritten Digits Classification Spring 2013

(MATLAB)

- Classifying handwritten digits by implementing four machine learning techniques **a) Neural Networks, b) K- Nearest Neighbors, c) Logistic Regression, d) Support Vector Machines** and compare their performance.
- Also use validation set to tune hyper-parameters for Neural Network and choose appropriate value k for k-NN.

Predicting Diabetes Level in patients Spring 2013

(MATLAB)

- Predicting diabetes level in patients using four machine learning techniques **a) Liner Regression, b) Ridge Regression c) Ridge Regression using Gradient descent, d) Non-Linear Regression** and compare their performance.
- Using the results obtained to make recommendations for anyone using regression for predicting diabetes level.