

MANJEET SINGH

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EMPLOYMENT

Technology Lead, Full Stack Development at IGATE Technologies

February 2014 – June 2015

GE Aviation, Lighting Apps and Transportation

- Leadership role as a Technical Lead supervising and mentoring a team of 6 in an Agile Environment to build a Java/J2EE based application to replace the existing COBOL based inventory tracking and transportation application.
- Lead scrum meetings with the customer to understand and analyze the requirement feasibility, decide on the development timelines, interact with project architect for design discussions and documentation.

Senior Software Engineer, Web Services Development at Infosys Technologies

August 2012 – February 2014

Bank of America, Cards

- Worked as an individual contributor for Bank of America on designing and developing a SOAP based Web-Service interface to interact with the existing mainframe Universal Decision System for credit/debit banking applications to handle validation, verification and authorization of request systems and forwards the user requests to the appropriate service based on the system rules.

Technical Associate, Web Services & Full Stack Development at Tech Mahindra

December 2009 – July 2012

SingTel, AT&T Mobility

- Worked on cross platform mobile application development projects as a Java Web Service developer to provide service API's for any native/non-native app to interact with the existing databases for the company sales data using SOAP, JAX-WS and JAX-RS web services.
- Created a proof of concept application for SAP systems on android devices. Responsible for creating a JAX-WS web service to interact with the SAP-ABAP and send the data to the android device.

SKILLS

Computer Science: Algorithms, Database, Big Data & Cloud, TCP/UDP, Application web services development

Languages: Java, J2EE, C++, Java Script, HTML, JSP, SQL/PL-SQL, Python

Databases: Oracle, MySQL, SQL Server, MongoDB

OS & Servers: Linux, Unix, Windows, JBoss, Apache Tomcat, IBM Web Sphere, Glassfish

Frameworks & Others: Struts, Spring MVC & Injection, Struts, SOAP, REST, Hadoop, Hibernate, JPA, Ant, Maven, SVN, RTC, GIT, Jenkins, Junit, JIRA, Tableau, R, JQuery, Design Patterns, SOLR, Waterfall, RAD and Agile

EDUCATION

Master's in Computer Science at University at Buffalo, SUNY

August 2015 – February 2017

- **Coursework:** Analysis of Algorithms, Languages & Databases, Parallel and Sequential Algorithms, Information Retrieval, Data Intensive Computing, Computer Architecture, Operating Systems, Modern Networking Concepts, Computer Vision & Image Processing.

Bachelor's in Computer Engineering at Mumbai University

June 2005 – June 2009

- **Coursework:** Algorithms, Database systems, Advanced Database Concepts, Operating Systems, Web Technologies, Computer Architecture, Object Oriented Design and Analysis, Automata Theory, Computer Networks.

ACADEMIC AND PERSONAL PROJECTS

Sideways Cracking (Self Organizing Tuple Reconstruction in Column Store DB - [Reference Paper](#)):

- Implemented Sideways-Cracking algorithm to achieve performance similar to presorted data without the initial sorting cost. **Indexed** the cracker maps using a **self-balancing red-black tree**. Implemented Hybrid-Crack-Sort algorithm to reduce the cracking operations by sorting data ranges falling within the predefined sorting threshold. Ran experiments (**dataset of 10⁷ randomly generated integers** and **query range [100-10⁶]**) to study trade-off between **sideways cracking**, **hybrid-crack-sort** and Java's **Collections.sort() API**.

SOLR Based Information Retrieval System:

- Created a crawler using **Twitter4j Java** API to gather over 1GB Twitter data in English, German and Russian languages on several topics for one month and parse it as a JSON dataset. Used **Lucene SOLR** for indexing and filtering the dataset. Designed a search engine around this indexed twitter data for performing content tagging, feature to handle multilingual queries using **Bing Translate API**, fetch top k tweets in every language and perform positive/negative sentiment analysis on this data using **Alchemy API**.

Data Analysis and Visualization of Big Data:

- Used **Hadoop MapReduce** to analyze a dataset of UB records over 80 years and obtain enrollment statistics, student enrollment information and campus utilization information for different departments. Exploratory data analysis and visualization of the New York real estate data for the last 20 years using **RStudio** and **Tableau** dashboard.

Client-Server chat application in C++ for Unix systems:

- Created a client-server chat application to relay messages between clients via a server, broadcast messages to all clients and buffer each client's offline messages. Provide online/offline status information for all users.

Reliable network protocols (Alternating-Bit Protocol, Go-Back-N Protocol & Selective Repeat Protocol):

- Implemented network protocols to facilitate packet transfer between two host systems in a time constrained environment, analyze and compare their performance for different message work-loads (10-1000) under changing loss/corruption environments (0.0-1.0).