ABHISHEK GARAI

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OBJECTIVE

To acquire a professional Information Technology position in **Software Development accompanied with Cloud Computing, Big Data Analytics skills** and pursue to be a crucial asset for the organization

EDUCATION

CARNEGIE MELLON UNIVERSITY | Pittsburgh, PA, USA | 3.5/4.0

Master of Science in **Information Technology-Information Security**   December 2015

UNIVERSITY OF MUMBAI | Mumbai, INDIA | 3.9/4.0

Bachelor of Engineering – **Computer Engineering**   May 2012

COURSE-WORK

Fall'15:   Data Structures for Application Programmers, Data Structures and Algorithms, Web Application Development, Java for Smart Phone Development

Summer'15: Web Security, Browser Security, Introduction to Computer Systems, Decision Making Under Uncertainty, Statistics for IT Managers

Spring'15: Cloud Computing, Applied Information Assurance, Information Security Risk Analysis, Information Security Policy and Management

Fall'14:   Fundamentals of Computer Networks, Introduction to Information Security, Telecommunications Management, Basics of Modern Cryptography

GRADUATE PROJECTS

Twitter Data Analytics on the Cloud   Feb'15-Apr'15

- Delivered a scalable Web Service in Java utilizing Amazon EC2 instances for analysing 1 TB Twitter Dataset stored in Amazon S3 using Hadoop MapReduce for ETL and MySQL, HBase for back-end database

TF-IDF & Page Rank Algorithm   Apr'15

- Implemented Search-Term and Document Ranking Function using TF-IDF and PageRank Algorithm analysing 1 TB of XML data to extract relevant documents operating on RDDs in Apache Spark Framework

Input Text Predictor using YARN   Apr'15

- Implemented an Input Text Predictor devised on a Statistical Language Model generated from a large text corpus for probabilistic prediction populated directly from a HBase database based on phrase frequencies

Graph-Analytics using GraphLab   May'15

- Analysed a large-scale real-world connected graph of cities using graph-parallel algorithm and implemented a C++ program using GraphLab's API to find the shortest path between all nodes using BFS

Big Data Analysis of Wikimedia Dataset on Cloud   Jan'15

- Analysed 1 month Wikipedia dataset using Sequential Analysis and Amazon Elastic Map-Reduce to explore trends and statistics to infer specific characteristics

Programming with Amazon Web Services APIs   Feb'15

- Managed AWS resources programmatically through Java AWS APIs for provisioning and scaling EC2 instances, registering Elastic Load Balancer and monitoring using Amazon CloudWatch

Load Balancing, AutoScaling and Caching using AWS   Feb'15

- Developed a concurrent caching Web Service in Java by programmatically configuring an Elastic Load Balancer with an Auto Scaling Group using AWS SDK exploiting locality using LRU replacement policy

Consistency in Distributed Key-Value Store   Mar'15

- Developed a Java program using the 'Reentrant Lock' API to enforce several consistency models for storing and updating data across geographically distributed datacentres

Cloud Database-as-Service and Data Warehousing   Mar'15
- Implemented a Social Network TimeLine using Amazon RDS, Amazon DynamoDB and HBase
- Performed benchmarking tests using 'sysbench', 'Yahoo Cloud System Benchmark' (YCSB) and optimized join-query performance in MySQL, HBase, Hive and Redshift(optimized using Sort and Dist Keys)

Database Storage Designing   Mar'15
- Implemented backend design policy analysing query performance based on scenario requirements through System Benchmarks (MySQL, HBase)

Multi-threaded Concurrent Caching Web Proxy   Aug'15
- Designed a caching web proxy in C that served HTTP/1.0 GET requests using an approximate LRU replacement policy for real websites like 'amazon.com' and 'cnn.com'

Cache Simulator   Jun'15
- Designed a cache-simulator in C exhibiting the hit/miss behaviour of a cache memory for an input trace of data requests and implemented matrix transpose with minimal cache misses exploiting blocking, locality

Web Privacy Negotiation | GSAI, UH, Kobe, JAPAN | Research Assistant   Aug'14-Dec'14
- Research on privacy threats of potential personal information disclosure by customers to prospective online service providers like 'amazon' and implementation of proposed negotiation approaches

WORK -EXPERIENCE

Graduate Teaching Assistant - OOP in Java | CMU, Pittsburgh   May'15-Present
- Assisted in improving the course offering, resolving student's queries and grading activities

Tata Consultancy Services Pvt. Ltd. | Mumbai, INDIA | Software Developer   Mar'13 – Jul'14
- Lead a Full-Stack Development Project in Java; Awarded kudos for outstanding Performance

Vidyalankar School of Information Technology | Mumbai, INDIA | Lecturer (BSc IT, MSc IT)   Jul'12 - Jan'13
- Taught core Programming, Cloud, Systems, Networking courses and advised students as member of Entrepreneurship and Career Counselling Committee

Graphical Representation of Network Monitoring System | BARC, INDIA | SDE Trainee   Jul'11-Apr'12
- Enhanced the UI and functionalities of the Web Application for 'Network Monitoring System'

Exchange Process Automation | BPCL, Mumbai, INDIA | SDE Intern   Jul'10-Aug'10
- Delivered a web application automating the 'Application Process for Ad-hoc Email-ID Creation'

COMPUTER SKILLS

- **Languages:**   Java, C, C++, Cobol, JCL
- **Programming Model:** Hadoop MapReduce v1.0,v2.0, Apache Spark Framework, GraphLab, OOP
- **Databases:**   MySQL, HBase, Hive, Redshift
- **Applications:**   MS Office Suite, Minitab
- **Web Technology:**   HTML, CSS, XML, Javascript, Chrome Extension APIs
- **Operating System:** Windows, Linux, Mainframe

AWARDS

- Graduate Student Tuition Scholarship for consistent academic performance during Graduate Studies at Carnegie Mellon University   Aug'14-Present