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Objective

"Build intelligent systems capable of self-learning and adaptive to solve real world problems empirically."

Education

Graduation **Visvesvaraya National Institute of Technology** **July 2012 – April 2016**

- Bachelor of Technology in Computer Science and Engineering Cumulative G.P.A: **8.76** (Institute Rank: 3)

Electives: Artificial Intelligence, Neuro Fuzzy Techniques, Information Retrieval, Data Mining, Network Security

Work Experience

Morgan Stanley **Software Associate and Data Analyst** **August 2016 – Present**

Business Analytics – Credit / Debit Exposures Breaches:

- Developed a highly scalable system in Java capable to detect breaches in real time based on hundreds of input sources for millions of client transactions and publish them on an angularJS web UI
- Built OLAP data cubes to perform historical transaction analytics to predict breaches in transaction ranging from organization level to client level granularity

Onboarding Variation Margin Engine on Cloud-platform:

- Developed an easily scalable and highly distributed system to calculate variations in client portfolios as per global market price fluctuations
- Re-architectured to increase the throughput for batch of 100k transactions from ~25 minutes to ~1.2 minutes
- Built to scale with the least human intervention by creating infrastructural resources on demand

Micro-Services driven Notional Calculation Engine:

- Building a near real-time system to calculate notional values with an expected throughput of 1.5 million requests per minute
- Developing a client library equipped with natural language processors to parse, interpret and evaluate complex formulae

Vaultize Technologies **Software Development Engineer, Intern** **May 2015 – July 2015**

CMIS Connector

- Developed an API to connect with and interpret data from any CMIS (Content Management Interoperability Services) compliant Enterprise Document Management System and delegate with proprietary Vaultize APIs
- Added functionality for version control management irrespective of underlying ECM (Enterprise Content Managers) and built a webPy based user interface to track version changes and perform file / folder operations

Academic Projects

Question Annotator & Tag Recommendation System **July 2015 – April 2016**

- Developed an *adaptive* tag recommendation system for questions in community forums based on the forum domain and user behavior
- Used supervised-learning to establish the dominance of multiple semantic closeness algorithms based on the domain
- Established ranking with cumulative corpus reduction based on high correlation metrics and semantic analysis

Data Mining **March 2016**

- Contrasting and analyzing the performance of various clustering algorithms on UCI datasets using R

Travelling Salesman Problem Simulation **November 2015**

- Devised a simulation for the TSP using genetic algorithm with randomized roulette wheel selection, crossover and mutation

Information Retrieval **November 2015**

- Developed a document partitioned search engine using BM25 Ranking and analyzed query performance with varied indices

8 – Tile Puzzle **October 2015**

- Analyzed the performance of Iterative Depth Search and A* path finding algorithms with the randomized 8 – Tile puzzle simulation

Mulyankan **May 2015**

- Developed a web app to assist schools in assessment and collating every students grade and generate mark sheets and other relevant MIS reports

10×10 Bit Emoticon/Symbol Detection **November 2014**

- Developed a multilayer perceptron neural network with back propagation to identify alphanumeric patterns or emotions from 10×10 binary images which is capable to interpret distortions and correct them

Assembler **November 2014**

- Implemented a multi-pass assembler in C to understand the functionality of symbol tables and memory mapping

Social Networking Simulator **May 2014 – June 2014**

- Built a Java swing desktop application to simulate and visualize the graph based social networks

VirtualBank Expense Manager **June 2014 – July 2014**

- Developed a web app to manage and track individual expenses and transactions within their social groups
- Used weighted DAGs to balance and aggregate transactions within groups

Autonomous Robot – IIT Bombay TechFest **January 2014**

- Led a team to build and program an autonomous bot capable of interpreting and maneuvering a convoluted grid of monochromatic lines

ACM Compute 2014 **December 2013**

- Developed a web portal in PHP 5.6 to aid and facilitate the annual ACM conference

Gesture Sensing Text Editor - Virtual Pad **February 2013**

- Developed a mid-air writing pad to capture figure strokes from a live video feed and interpret English alphabets
- Used intensity-weighted centroids to track and analyze image sequences in MATLAB

Ball Tracking and Following Bot **October 2012**

- Built an autonomous bot with a mounted camera to track a rolling balls trajectory and follow it.

Languages and Technologies

- Programming: Java 8, Python 2.x, C, C++, R, Perl, Scala, Lisp, FORTRAN, Awk, Sed, Bash
- Database: Oracle SQL 11g, MySQL 5.7, Sybase, DB2, Neo4j 2.3.5, MongoDB, H2
- Frameworks: Spring 4, HazelCast, IBM MQs, Apache Zookeeper, LAAS, Git, Perforce, JMX, Apache CXFUtils, Hibernate, Mockito, Apache inMemory, Alfresco ECM, Splunk, NLTK
- Web: HTML5, AngularJS 1.x, CSS, PHP, ASP, JS, jQuery, webPy, D3, HighCharts, Bootstrap
- Tools: MATLAB, IntelliJ, Dreamweaver, Flash, Photoshop, AWS

Technical Trainings

- Algorithms Part 1 & 2 – Princeton University – Kevin Wayne
- Machine Learning – Stanford University – Andrew Ng
- Neural Networks and deep learning – deeplearning.ai – Andrew Ng
- Technology Analyst-training Program (TAP) – Morgan Stanley