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EDUCATION

University at Buffalo, The State University of New York — **GPA 3.58/4.0**
M.S. in Computer Science and Engineering — Feb 2016
Coursework: Networking Concepts, Information Retrieval, Operating Systems, Distributed Systems, Machine Learning, Algorithms.

University of Mumbai — **FIRST CLASS**
B.E. in Electronics and Telecommunication Engineering — Jun 2013
Coursework: Wireless Networks, Image Processing, Data Compression and Encryption, Mobile Communication Systems.

SKILLS

Languages: Java, C, C++, Python, HTML, CSS, XML, SQL.
Technologies & Frameworks: Android, POSIX Sockets, Git, Maven, UNIX/Linux, FLTK, Swing, Twitter API.
Tools: Bash, Eclipse, Android Studio, Wireshark, GDB.

EXPERIENCE

UBWiNS Lab, University at Buffalo, *Independent Study / Research Assistant* — **(May - Aug 2015)**
Modelling information propagation in Twitter [Java, twitter4j]
- Collected data from the Twitter API to build a sub-graph of the Twitter network and studied the impact of various parameters on diffusion of tweets in Twitter.
- The eventual goal is to build a simulator for Twitter which simulates network formation and information propagation.

Toshiba Machine, Chennai, *Software Development Intern* — **(Jan - Apr 2014)**
GUI Development [C++, FLTK]
- Developed part of the software for the touch controlled GUI of the HMI of injection moulding machines, using the FLTK toolkit.
- Also wrote part of the code for navigation using the keyboard.

INDEPENDENT PROJECTS

Yelp Review Categorization - NLP [Python, nltk] (2015)
- Aggregated reviews for each business in Yelp's dataset (of restaurant reviews) to provide 0 to 5 star ratings in four categories: food, service, value for money, and ambience.
- Used NLP and semantic analysis over all the reviews of a restaurant to give the category ratings and create word cloud summaries.

Simulation of the motion of colliding particles [Java, Swing] (2014)
- Developed an application to help model the simulation of the motion (according to Newton's laws) of colliding particles. Used the event-driven simulation based model.
- Developed a visualization tool for the same using the application.

ACADEMIC PROJECTS

Harvard OS/161 design, implementation, and debugging [C] (2015)
- Implemented synchronization primitives (sleep-lock, condition variable, readers-writer lock) and system calls for file system support (open, read, write, lseek, close, dup2, chdir, getcwd) and process support (getpid, fork, execv, waitpid, exit).
- Built the virtual memory system (management of the TLB, paging, sbrk, and page reclamation mechanisms).

File sharing application [C, POSIX Sockets] (2014)
- Developed an application for file sharing among remote hosts, using TCP sockets.
- The processes on different hosts worked like a UNIX shell; multiple connections were handled using the select() API.

News corpus search engine [Java] (2014)
- Developed a framework to parse, tokenize, filter and index over 12,000 news articles. Implemented a query parser to support querying over the index, which parsed free text queries into a structured boolean queries.
- The querying mechanism fetched articles relevant to the query using the index, ranked using the tf-idf and okapi relevance models.

Amazon Dynamo style key-value storage [Java, Android] (2015)
- Implemented a simplified version of Amazon Dynamo (membership partitioning, chain replication, request routing & failure handling), providing availability and linearizability. Android application instances behaving as nodes.

Distributed Hash Table [Java, Android] (2015)
- Implemented a simplified version of a distributed hash table using the chord algorithm (ring based routing, ID space partitioning and re-partitioning and node joins).

Distance Vector Protocol [C, POSIX Sockets] (2014)
- Implemented a simplified version of the distance vector routing protocol using the Bellman Ford algorithm.
- The protocol ran on top of servers behaving as router nodes, by sending routing table updates to compute the shortest paths between nodes, using UDP sockets.

Handwritten digits classification [Python, numpy] (2015)
- Implemented a basic Multilayer Perceptron Neural Network to classify handwritten digits (from the MNIST dataset).
- Performed feature selection, followed by feed forward and back propagation, with regularization. Achieved an accuracy of 92%.

Predicting diabetes levels using regression [Python, numpy, matplotlib] (2015)
- Used four regression techniques: linear regression, ridge regression (with and without gradient descent), and non-linear regression to predict diabetes levels in patients
- Compared the performance of the techniques and tuned parameters to improve performance.