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Himanshu Verma

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Education

2013-2018 (Expected) — B.Tech and M.Tech (Dual Degree) in Computer Science and Engineering
Indian Institute of Technology, Kharagpur
Courses: Deep Learning, Machine Learning, Artificial Intelligence, Parallel & Distributed Algorithms, Operating Systems, Database Management Systems, Computer Networks, Information Retrieval, Speech & Natural Language Processing, Compilers, Software Engineering, Algorithms-I & II, Discrete Structures

2013 — Class XII, Central Board of Secondary Education (CBSE)
Central Academy School, Gwalior

Work Experience/Internship

Jun 2016 – May 2016 — **Building Knowledge Base using Unstructured Data**
Software Development Intern at Flipkart, Bangalore

- Preprocessed the whole dataset which includes cleaning of dataset & and restructuring it into specific manner.
- Proposed a domain specific chunking grammar, used along with various open information extractor tools like ReVerb, Ollie, Stanford CoreNLP to extract the phrases from each sentence. Used Word2Vec model to produce word embeddings.
- Used skip-thought vectors for finding semantically and syntactically same sentences and then used Hierarchical Agglomerative Clustering (HAC) method to cluster them.

Academic Projects

Nov 2016 – Aug 2016 — **Song Lyrics Generation using Neural Networks**

- Built a database of song lyrics and used tensorflow to create a Long Short Term Memory (LSTM) neural network that works on a word-level language model which learns the artists' styles of writing, including words, rhymes, chorus, etc.
- tf-idf variance and assonance rhyme density measures were used to evaluate the model.

Apr 2016 – Mar 2016 — **Link Prediction using Apache Spark**

- Given a social graph, predict which links are expected to appear in the future. Used Logistic Regression (mllib library - Apache Spark) and Jaccard's similarity to calculate the probability of two unconnected nodes getting connected in the future.

Mar 2016 – Feb 2016 — **Academia - Course Management System**

- Built a complete course management system that supported authentication & authorization, User Access Control for 4 different types of users, calendar support and all major features one can expect from a CMS including faculty management, course progression, self-evaluated tests etc.
- The complete workflow was built using the LAMP stack. Twitter Bootstrap was utilised for making the site fully responsive.

Nov 2015 – Aug 2015 — **Compiler for Tiny C (A Subset of C Language)**

- Developed a TINY C compiler using compilers principles, techniques and tools. The tools used for development were Flex and Bison. The compiler was written entirely in C++ language.

Apr 2015 – Mar 2015 — **Restaurant Automation System**

- Developed a software built using JAVA Swing for a Restaurant Automation System which handles and automates the requests of the management and customers. Documented the software(SRS,SA/SD,UML,Test-Suite),which involved using UML case tools.
- Separate records were maintained for handling the tasks and SQL was used for interfacing with the database. Key features included managing stocks, generate monthly sales receipt etc.

Technical Skills

Programming	*Proficient:* C, C++
	Familiar with: Python, Java, JavaScript, Scala
Libraries/Databases	Tensorflow, MySQL
Frameworks	Apache Spark, BootStrap, AngularJS
Markup/Templating	HTML, CSS, LaTeX
Software & Tools	StarUML, Netbeans ID, Eclipse
Systems/Platforms	Git, Microsoft Windows, Linux(Ubuntu)

Scholastic Achievements

- Stood amongst top 2.6% participants (rank 150) in the **Google APAC 2017 University Test** - Round B. Handle - *lannister*.
- Team **Curious_moles** qualified for the onsite round and stood amongst top 20% participants in the **ACM-ICPC'16** held at Coimbatore.
- Ranked in Top 5% (amongst 150,000 candidates) in Joint Entrance Examination conducted by Indian Institute of Technology.