RAHUL S AGASTHYA

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EDUCATION

ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO, IL

MASTERS OF COMPUTER SCIENCE, (EXPECTED), DECEMBER 2019

- Artificial Intelligence
- Computer Networks
- Data Preparation & Analysis
- Machine Learning
- Natural Language Processing
- Software Project Management
- Cloud Computing
- Software Development
- Wireless Networking

STONY BROOK UNIVERSITY, STONY BROOK, NY

BACHELOR OF SCIENCE, COMPUTER SCIENCE, MAY 2018

- Object Oriented Programming
- Software Engineering
- System Architecture
- Data Structures
- Internet Programming
- Programming Languages
- Analysis of Algorithms
- Scripting Languages
- Theory of Computation
- Database Management
- Social Network Analysis
- Basics of Data Science

SKILLS

- ***Programming Languages:*** Python, Java, C, C++, Ruby, R, Perl, SML and XSB Prolog.
- ***Web Based Languages:*** JavaScript, HTML, jQuery, XML and Ajax.
- ***Database Languages and Handling:*** MySQL, PostgreSQL, SQLite, MongoDB, Log-stash and Elastic-search.
- ***Frameworks*:** Numpy, Scipy, Ply, Flask, BeautifulSoup, Pandas (Python), Rails (Ruby), Spring and JDBC (Java).
- ***Operating Systems*:** Unix, Linux, Windows Command Line.
- ***Others:*** Git, Object Oriented Programming, Network Programming.
- ***Undergraduate Fellow:*** College of ITS, Stony Brook University – May 2015.
- ***The International Award for Young People - Bronze:*** Duke of Edinburgh - March 2012.

PROFESSIONAL EXPERIENCE

INTERN, MCAFEE SOFTWARE INDIA PVT. LTD. – SUMMER 2019

- Collaborated with a team working on one of the most advanced, extensible and scalable centralised security management software called as the *ePolicy Orchestrator* (or ePO for short) and the main function of the ePO is to ensure the conformance of end points (numbers ranging from 11 to 1000) in an enterprise network and report if a system was not compliant.
- In such cases, the software had to be installed or updated manually, which was time consuming (as close to 100-150 commands had to written one by one), and hence I was given the task of developing a script (in *python*) that would fetch machine information, SSH connect to the machine, send the necessary commands (generated dynamically based on the standards prescribed by the OS website) and store the results of the commands for future reference, thereby saving effort of the engineers, time of the team and resources of the company.
- The script I developed was compatible with Debian, SUSE and RHEL machines, and was "Developer Friendly" i.e. developed to be scalable to ensure other operating systems could be handled in the future with minor modifications.
- In addition to this, I was assigned the task of updating some pre-existing *python* automation scripts that lacked certain functionalities. These scripts were also "modernised" by using the recent file formats and libraries replacing the old ones. One good example was updating the script to handle data in JSON format rather than the old XML format. This not only made future development easy but also made the code efficient.

INTERN, INDIAN INSTITUTE OF SCIENCE, BENGALURU, INDIA – SUMMER 2018

- Worked with the Machine and Language Learning (MALL) Lab of the Institution.
- Assisted in research projects by providing a detailed insight on Query Languages on Graph Databases.
- Functioning of Graph Databases like *Gremlin*, *SPARQL* and *Cypher* was analysed.

TEACHING ASSISTANT, STONY BROOK UNIVERSITY, NY – AUG 2015 - MAY 2018

- Supervised about 25 students of the Introductory *Java Programming* course.
- Helped the students in writing efficient code, and implement the concepts of *Java Programming* and *Object Oriented Programming*.

INTERN, INFINERA INDIA PVT. LTD. – SUMMER 2015

- Developed *Java* application to translate a RAML file containing 100s of schema properties to HTML Tables.
- Implemented the concepts of Object Oriented Programming like Inheritance and Polymorphism, and String, String Builder libraries to develop an efficient application.
- The Project is currently in use by the Documentation Department of the company.

PROJECTS

TRUMPCULENT APPLICATION (APRIL 2016 - MAY 2016)

- Part of a team of two to develop a *Java* application (using *Twitter4j* and *Tweebo Parser*) which takes a sentence from the user and converts in into a tweet in a style of a famous celebrity (here President Trump).
- Here, Natural Language Processing concepts of Part of Speech Tagging was used, in addition to Machine Learning techniques of Neural Networks.

BACKPACKERS FLIGHT RESERVATION SYSTEM (AUG 2017 - DEC 2017)

- Part of a team of four that developed a Web-based application (using *Java, JDBC* and *MySQL*) to clone the functionalities of a flight reservation system like expedia.com.
- The application successfully generated the various routes between two airports, including connections, and listed the best flights i.e. based on journey time and fare.

ELECTION REDISTRICTING (JAN 2018 - MAY 2018)

- Part of a team of four to develop a Web-based application (using *Java, Spring* and *MySQL*) to redraw election districts of the House of Representatives of the United States Congress.
- The prime objective of this project was to reduce the effect of Gerrymandering and create congressional districts that are contiguous, politically fair and have the same population as other districts in the State.
- This was limited to the States of Arkansas, Indiana and West Virginia.

CHICAGO SOCIAL HUB (JAN 2019 - MAY 2019)

- Part of a team of two that developed (using *AngularJS*, *Python* and *PostgreSQL*) that helps users to find restaurants (searched by name, cuisine or franchise), sorted based on ratings and reviews.
- The user has the ability to view the availability of docks at a DIVVY station nearest to a selected restaurant.

ELECTRONIC MMP APPLICATION (DEC 2018 - JAN 2019)

- Mixed Member Proportional Representation is a system of elections, that represent a Legislature in an accurate manner. In this system every voter gets two votes (one for a local representative and another for the political party).
- An application was developed first using *Java* to enable such an election electronically, where users will be able to add/delete candidates or parties, voters will be able to cast votes and the results will be generated.

E-CENSUS APPLICATION (TO BE COMPLETED BY THE END OF 2019)

- This is an application under development (using *Ruby on Rails*) to provide for an electronic means of gathering information and improve the efficiency of tabulation of data by the Census Board of India.
- The first version of the application is scheduled to be completed by the end of this year.