Karan Tyagi

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EDUCATION

Northeastern University, Boston, MA *Sept. 2017 - Dec. 2019*
Master of Science in Computer Science, **GPA: 3.81**
Relevant Coursework: Algorithms, Big Data Parallel Processing (Map Reduce, Apache Spark), Information Retrieval

Institute of Engineering and Technology, Lucknow, India *July 2010 - June 2014*
Bachelor of Technology in Computer Science and Engineering, **GPA: 3.68**

TECHNICAL SKILLS

Programming Languages	Java, C#, SQL, HTML, CSS, Javascript
Web Technologies	jQuery, React, Redux, Angular, Express, Node, Spring Boot, .NET Framework
Tools	Git, Bitbucket, Jira, IntelliJ, Eclipse, Visual Studio, Bamboo, Swagger, Postman, Heroku
Others	Linux, Hadoop MapReduce, Spark, Amazon Web Services (AWS) - EMR, S3, RabbitMQ
Databases	MS SQL Server, MySQL, MongoDB (NoSQL)

EXPERIENCE

Application Developer Co-op | *Annaly Capital Management Inc., New York* *Jan. - Aug. 2019*

- Designed and implemented the **Health Check Monitoring System** to monitor critical jobs and SLA data breaches Created the persistence layer, coded middle tier processes, and the web APIs using **C#** and **.NET framework**; Improved the efficiency of intercepting overnight support issues and job failures by more than 50%
- Implemented **Message Queuing library** with publish-subscribe and broadcasting functionality using **RabbitMQ** and helped with the integration of message queuing with the existing financial systems
- Automated the deployment of Database Change Requests by creating a service to query **Jira API** for change requests which resulted in improving the deployment time for such requests by more than 80%
- Build an **Authentication web service** using **JWT** to be used by other services running in docker containers
- Updated the workflow automation **WPF** application for running portfolio predictions by adding features for tweaking rules, extended the **REST API** backend, using **Entity framework**, **.NET core** and **ASP.NET Web API**

Graduate Teaching Assistant | *Northeastern University, Boston* *Jan. - Apr. 2018, Sept. - Dec. 2018*

- Assisted more than 50 students with Graphics programming in C++ and OpenGL
- Conducted labs, office hours and graded assessments for Computer Graphics course

PROJECTS

Job Search Portal | *Northeastern University* *May - July 2018*

- Developed a RESTful web app for allowing users to browse, save and apply to job postings which were aggregated from Github Jobs API along with jobs posted by registered recruiters |**AngularJS**, **MongoDB**, **ExpressJS**, **NodeJS**

WhiteBoard - Course Management System | *Northeastern University* *Apr. - May 2018*

- Implemented a RESTful web application for creating, managing courses and registering students
- Admin and faculty modules were built in **jQuery**, **ReactJS, Redux** using a **Spring Boot Java backend** server connected to **MySQL** database server, running on **Heroku**
- Student modules were built using **MEAN** stack (**Angular**, **Node, MongoDB, NodeJS**)

Accessible Screen Navigation and Conversational assistant for the Visually Impaired | *PerkinsHack* *Feb. 2018*

- Spearheaded the development of a navigation system and integrated various modules to build a prototype
- Programmed the finger detection and beep generation modules using **Python** and **OpenCV**

Search Engine | *Northeastern University* *Jan. - Apr. 2018*

- Implemented a Web crawler, Indexer, Query processor and developed a Search Engine in **Java** with features like query expansion, pseudo-relevance feedback and snippet generation | **Java**, **Apache Lucene** and **Maven**
- Evaluated the performance of different retrieval models like TF-IDF, BM25, and Query Likelihood model and Lucene

HACKATHONS

- OvenBot - Display Screen Navigation for the Blind | Won "**Best Accessibility Design**" prize *PerkinsHack 2018*
- American Sign Language Interpreter | Won "**Best use of Amazon Web Services (AWS)**" prize *HackWITus 2017*