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, Database Systems, Web Development, Parallel Processing using Map Reduce

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, Python, 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	Hadoop MapReduce, Apache 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 persistence layer, coded middle tier processes, and 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 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, improving deployment time for such requests by more than 80%
- Built 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*
- Tutored more than 50 students for Computer Graphics, helped them with Graphics programming in **C++** and **OpenGL**
- Conducted labs, graded assessments and assisted students with debugging graphics programs in Linux environment

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*
- Developed Admin and Faculty modules using **jQuery**, **ReactJS, Redux,** which interacted with a **MySQL** database server using a **java** middle tier (**Spring Boot, JPA**), all of which was deployed on **Heroku**
- Student modules were built using **MEAN** stack (**Angular**, **Node, MongoDB, NodeJS**) and deployed on **Heroku**

Accessible Screen Navigation and Conversational assistant for the Visually Impaired | *Perkins Hackathon*   *Feb. 2018*
- Spearheaded the development of a navigation system and architected various modules to present a POC in 18 hours
- Programmed finger detection service and beep generation module using **Python**, **OpenCV**, **Google Cloud Vision API**

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 AND AWARDS

- 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   *HackWIT 2017*
- Silver Medal - Academic Excellence Award | 2nd rank in C.S.E. dept. during bachelor's degree   *June 2014*