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: Large Scale Parallel Data Processing, 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#
Web Technologies	HTML, CSS, Javascript, Bootstrap, jQuery, React, Redux
Frameworks	AngularJS, Express, NodeJS, Spring Boot, .NET Framework,
Tools	Git, Bitbucket, Jira, Jenkins, IntelliJ, Eclipse, Visual Studio, Bamboo, Postman, Swagger
Others	Hadoop, Microsoft Azure Services, Amazon Web Services (AWS), RabbitMQ
Databases	MS SQL Server, MySQL, MongoDB (NoSQL)

EXPERIENCE

Application Developer Co-op | *Annaly Capital Management Inc., New York*   *Jan. - Aug. 2019*
- Worked extensively on enhancing backend systems and implementing web services.
- 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. Improved 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 containerized environments.
- Extended WPF application for running portfolio predictions by adding features to tweak various variables for a scenario; Created **REST** API backend, using **Entity framework**, **.NET core** and **ASP.NET Web API**

Teaching Assistant | *Northeastern University, Boston*   *Jan. - Apr. 2018, Sept. - Dec 2018*
- Conduct labs, office hours and grade assessments for Computer Graphics course
- Assist about 50 students with Graphics programming in C++ and OpenGL

PROJECTS

Job Search Made Easy | *Northeastern University*   *May - July 2018*
- Designed a job portal and implemented it as a RESTful web app for aggregating jobs from APIs like Github Jobs API and jobs posted by registered recruiters, using **AngularJS**, **MongoDB**, **Express**, **NodeJS**

Accessible Screen Navigation and conversational assistant for the Blind | *PerkinsHack 2018*   *Feb. 2018*
- Spearheaded the development of POC for 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, Searcher using **Java**, **Apache Lucene** and **Maven**
- Evaluated performance of retrieval models like TF-IDF, BM25, and Query Likelihood model and Lucene

American Sign Language Interpreter | *HackWITus 2017*   *Oct. 2017*
- Constructed a dataset of 60,000 instances for training a logistic regression model using **AWS Machine Learning**
- Detected signs from American Sign Language using Leap Motion hardware and converted them to text using **Python**

HACKATHONS

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