

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, Software Engineering, Web Development, Hadoop MapReduce

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	C#, Java, Python
Web Technologies	HTML, CSS, Javascript, Angular, Express, Node, Spring Boot, .NET Framework, ASP.NET MVC
Tools	Git, Bitbucket, Jira, IntelliJ, Eclipse, Visual Studio, Bamboo, Swagger, Postman, NUnit
Others	Hadoop MapReduce, Amazon Web Services (Elastic Beanstalk, S3, EMR), RabbitMQ
Databases	MS SQL Server, MySQL, MongoDB (NoSQL), AWS - RDS

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 breaches
Created persistence layer, coded middle tier processes, and web APIs in **C#, ASP.NET Web API** and **.NET Core**
Improved the efficiency of intercepting overnight support issues and job failures by more than 50%
- Implemented a **Message Queuing Library** in C# with publish-subscribe and broadcasting functionality using **RabbitMQ** and helped integrating the message queuing library with the existing financial systems
- Automated the deployment of Database Change Requests by creating a service to query Jira API for change requests and using SQL Server Management Objects for executing database changes. Improved deployment time by 80%
- Extended the internal CRM web application by adding features like managing meetings using **ASP.NET MVC** and **Entity framework**
- Built an **Authentication** web service using **JWT** tokens to be used by other services running in docker containers

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

- Tutored labs and conducted course related doubt sessions for Computer Graphics course using OpenGL

PROJECTS

Twitter Social Amplification Analysis | *Northeastern University* Oct. - Nov. 2019

- Analyzed follower count using Twitter Follower data set consisting of 10 million records with MapReduce and Spark
- Performed social amplification by finding triangle relationships | **Hadoop MapReduce, Java, AWS - S3, EMR**

Job Portal | *Northeastern University* May - June 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 other jobs posted by recruiters | **MongoDB, ExpressJS, Angular, NodeJS, Mongoose**

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

- A web app for creating and managing courses and registering students | **Angular, Spring Boot, JPA, Java, MySQL**

OvenBot - Digital Display Navigational 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 Platform**

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

- Implemented Web crawler, Indexer, Query processor features and Snippet Generator | **Java, Apache Lucene Maven**
- Evaluated the performance of different document retrieval models like TF-IDF, BM25, and Lucene

HACKATHONS AND AWARDS

- OvenBot - Display Screen Navigation for the Blind** | Won "**Best Accessibility Design**" prize PerkinsHack 2018
- Emosic - Emotion Recognizing Music Player** | Python, OpenCV, Microsoft Azure Cloud HackBeanPot 2018
- American Sign Language Interpreter** | Won "**Best use of Amazon Web Services (AWS)**" prize HackWIT 2017