# Karan Tyagi

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#### **EDUCATION**

Northeastern University, Boston, MA

Sept. 2017 - Present

College of Computer and Information Science, GPA: 3.8

Expected Graduation: Dec. 2019

Master of Science in Computer Science

**Relevant Coursework:** Algorithms, Programming Design Paradigm, Web Development, Information Retrieval, Data Mining, Database Systems, Managing Software Development

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, Python

Web TechnologiesHTML, CSS, Javascript, Bootstrap, jQuery, React, ReduxFrameworksAngularJS, Express, NodeJS, Spring Boot, .NET, MATLAB

**Tools** Git, Maven, Jira, Jenkins, IntelliJ, Eclipse, Visual Studio, Web Storm, Jupyter Notebook

APIs, Libraries OpenCV, Microsoft Azure, Amazon Web Services (AWS)

Databases MySQL, MS SQL Server, MongoDB (NoSQL)

#### **EXPERIENCE**

**Teaching Assistant** | *Northeastern University, Boston* 

Jan. - Apr. 2018, Sept. 2018 - Present

- Conduct labs, office hours and grade assessments for Computer Graphics course
- Assist about 50 students with Graphics programming in C++ and OpenGL

**Project Intern** | *Indian Ministry of Environment & Forests, Dehradun, India* 

June - July 2013

• Designed database and developed a windows app using C#, Windows Presentation Foundation and .NET framework for monitoring fund disbursement under the Integrated Forest Management Scheme of Govt. of India.

#### **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 **Bootstrap**, **AngularJS**, **Mongoose**, **MongoDB**, **Express**, **NodeJS** 

#### **Learning Management System** | *Northeastern University*

Apr. - May 2018

- Implemented the faculty module as a RESTful web application | ReactJS, Redux, Spring Boot, Java, JPA, MySQL
- Implemented the student module as a RESTful web application using MEAN stack | Angular, Node, MongoDB

### Accessible Screen Navigation and conversational assistant for the Blind | PerkinsHack 2018

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, 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

Virtual Mouse June - July 2017

- Developed a windows app in MATLAB for simulating mouse events using real-time video feed from laptop's webcam
- Overcame the illumination dependency problem by using YCbCr color model along with a manual calibration module

## AWARDS

OvenBot - Display screen navigation for the Blind | Won "Best Accessibility Design"

PerkinsHack 2018

• American Sign Language Interpreter | Won "Best use of Amazon Web Service" Prize

HackWITus 2017

• Silver Medal - Academic Excellence Award | 2<sup>nd</sup> rank in C.S.E. dept. during bachelor's degree

June 2014