

# PRATHAMESH TAJANE

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## EDUCATION

**Northeastern University**, College of Computer & Information Science, Boston, USA Sept 2016 – Dec 2018  
*Candidate for Master of Science in Computer Science*  
Related Courses: Algorithms, Web Development, Information Retrieval, Large Scale Data Processing, Database Management System, Fundamentals of Artificial Intelligence, Managing Software Development

**University of Mumbai**, Mumbai, India May 2014  
*Bachelor of Engineering in Information Technology* First Class with Distinction  
Relevant Courses: Object Oriented Analysis & Design, Data Structures and Algorithms, Database Technologies

## TECHNICAL KNOWLEDGE

**Languages:** Java, Python, JavaScript(basic), C(basic), Unix Shell Scripting, Racket  
**Web Technologies:** HTML, CSS3, jQuery, AJAX, Bootstrap3, D3.js, NGINX, Docker, ExpressJS, NodeJS, CanvasJS, Heroku, AWS  
**Frameworks:** AngularJS 1.x, Spring, Spring-Boot, Django, Maven, Swagger(SpringFox), Hadoop, Paho-MQTT  
**Databases:** MongoDB, SQLite 3, MySQL, Oracle, Firebase  
**IoT Protocols:** MQTT, Paho-MQTT, LoRa, SigFox  
**IDE & Tools:** Jenkins, IntelliJ IDEA, Eclipse, WebStrom, PyCharm, GitHub, RaspberryPi, Arduino, ESP8266

## WORK EXPERIENCE

**Northeastern University**, Boston, USA Jan 2018 – present  
**Research Assistant – IoT Open Innovation Lab**  
**IoT Network integration platform (SpringBoot, Amazon Lambda Services, AWS RDS, Docker, Jenkins, SigFox, LoRa, MQTT)**

- Designed an architecture for an integration platform of **SigFox**, **LoRa** and **MQTT** lightweight protocols to build the first dedicated IoT network infrastructure of Northeastern University (Boston Campus)
- Implemented a **Spring Boot** based micro service and converted it into **Docker** container to deploy it on **AWS EC2** instance
- Integrated **Amazon Alexa Skills** with this platform along with automatic load balancer with **NGINX**

**Philips Lighting Research North America**, Cambridge, USA Sept 2017 - Jan 2018  
**Research Software Developer Co-op Intern**  
**Automated Commissioning of Luminaires (Django, SpringBoot, JavaScript, MQTT)**

- Coordinated with Scientist and Research member of Philips Research innovation team to design and implement Commissioning of luminaires IoT(Internet Of Things) research project using JavaScript and **Django** framework to completely automate luminaires commissioning process with **92.3% accuracy**
- Optimized efficiency of message delivery in unreliable network by implementing publish-subscribe-based lightweight **MQTT** messaging protocol

**National Stock Exchange of India InfoTech Services Ltd**, Mumbai, India July 2014 - Aug 2016  
**Systems Analyst**  
**Centralized knowledge repository of National Stock Exchange of India (JavaScript, MediaWiki)**

- Conceptualized and created an online knowledge repository using **JavaScript** and **MediaWiki** to store all trading data required for training and Interdepartmental knowledge transfer thereby broadening interdepartmental knowledge transfer rate of an organization by **32.5%**

## PROJECTS

**Remote monitoring and control of battery farms using IoT technologies (Django, MQTT, Raspberry Pi)** Sept 2017 - Oct 2017

- Designed and implemented architecture to remotely manage and monitor battery farms using **Raspberry Pi 3**, **ESP8266 microcontroller** and **MQTT** protocol, thereby reducing the cost of remote monitoring and control by 38%
- Integrated Amazon's Alexa service with the project by using **Amazon Lambda services** and **Alexa Cloud services**

**Weather data management system (Spring Boot, Docker, NGINX, AWS EC2, SpringFox, AWS RDS)** Jul 2017 - Aug 2017

- Designed and developed **Spring Boot MVC** micro service to model weather related ticker data of different cities in US
- Deployed this application on **AWS EC2** and added scalability by converting it into **Docker** containers and **NGINX web server**
- Utilized **SpringFox(Swagger)** to integrate documentation in the source code itself thereby making it easy to identify HTTP end points for QA and front end developers

**Web Development (HTML, CSS, JavaScript, Bootstrap, AngularJS, NodeJS, MongoDB, ExpressJS)** Jan 2017 - Feb 2017

- Speaking Tree Website** - Built a Single Page responsive website maker application using **MEAN Stack**