Akshay Sanjay Mulik
Software Engineer
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Boston, MA.

EDUCATION

M.S. in Computer Science(Data Analytics),Boston University(GPA: 3.56/4.00) **September 2019 - May 2021**
Relevant Coursework: Artificial Intelligence, Data Science with Python & Foundation of analytics with R, Web App Development, Machine Learning, Big Data Analysis, Special topics in Cyber Security, Web Analytics and Mining, Advance Database

MIT Sloan School of Management **June 2020 - August 2020**
Certificate Course: Artificial Intelligence: Implications for Business Strategy

Bachelor of Engineering in Information Technology, University of Mumbai, India **August 2014 - May 2018**
Relevant Coursework: Software Engineering, Distributed Systems, Web Technologies, Computer Networks.

TECHNICAL SKILLS

- Programming Languages: Java, C, Bash, MS SQL Server, Python, R, MySQL, Arduino C++, Mongo DB.
- Web Development: HTML5, CSS3, JavaScript, React, JSP, DNS, HTTPS, TCP/IP on local VMs and cloud.
- Operating Systems: Ubuntu, AOSP, and Windows 10.
- Tools: Visio, Numba, Jenkins, GNU Make, CMake, Gerrit, Amazon Web Services (AWS), and Google Cloud.

WORK EXPERIENCE AND LEADERSHIP EXPERIENCE

Boston University Dining Halls and Market Café **September 2019 – May 2021**
Cashier and Student FOH Boston, MA
Worked in a fast-paced environment, received food safety training, serving 100+ hungry customers during meal hours.

RAIT Alumni Association(RAA) **February 2015 – April 2018**
Student Member Mumbai, India
Positions of responsibility: volunteer, technical head, general secretary, and mentor. Performed data cleaning and collection of data from offline sources, completed 14000 rows with a team of 6. Part of organizing team for events: Alumni meets and mentorship events. Represented RAA in NAAC accreditation assessment, where my school scored an 'A' grade.

ACADEMIC PROJECTS AND PUBLICATIONS

Bike Weather Forecast(Cloud function, Pub/Sub, ETL pipeline, Docker, IAM policies) (github.com/akshaymulik/Bike_weather)
- Designed a data architecture for data ingestion of live weather data in Google Cloud to improve bike ride experience.
- Built data pipelines using Google Cloud Composer(Apache Airflow), to store data in GCS and Big Query.

Data Analysis and Visualization with R(plyr,purr,tidy,ggplot2,corrplot,broom,ggfortify,pROC)
- Developed a Solar Energy business feasibility report by performing hypothesis tests, regression algorithms on geodata.

AI-based activity prediction(NumPy, pandas, scikit-learn, Linear Regression, seaborn, Tensorflow, Dataset Visualization)
- Performed PCA, decision tree, linear regression with visualization on the data after it was cleaned.
- Trained a model with 84% accuracy to predict types of motion by reading time series motion sensor data in Tensorflow.

Database Replication(Advance Database Project)
- Implemented peer-to-peer database replication on SQL Server 2019 on VMware and geo-replication on Azure Cloud.

Crime Rate Analysis(Data Bricks, Scala, SQL, Spark)
- Performed data analysis to obtain areas with a high crime rate and visualized the same.

Big Data Analysis(AWS Elastic MapReduce(EMR), EC2, Google Cloud Platform Dataproc, ETL, Apache Spark, Hadoop)
- Performed data cleaning with RDDs, linear regression on a dataset from scratch, and logistic regression with pyspark library.

Web Sentiment analysis
- Conducted sentiment analysis on news headlines fetched from Google news using Affin score, nltk, and NRCLex packages.

Automated Indicators for Vehicles**(github.com/akshaymulik/aiv** I2C MPU6050, android share GPS**)**
- Developed a GPS and motion sensor-based embedded device with raspberry pi and Arduino to automate turn signals.
- Publication: International Journal of Computer Science and Information Technology(e-ISSN: 1694-2329) Volume 5, Issue 3.

Connected Plants Watering System (Arduino, Raspberry Pi, Wi-Fi, solar, and soil sensors)
- Publication: An IoT concept device powered by solar energy to maintain plants provides Wi-Fi access in a city.

RFID Based Attendance system **(github.com/akshaymulik/ajdbc** , SPI MRFC522**)**
- Built an RFID scanner with Arduino connected to a MySQL server via JDBC to record and display attendance on a JSP page.

Bresenham's line drawing algorithm using Arduino(Arduino C++, Display driver **github.com/akshaymulik/bresenham-LED**)
- Created a 6x6 LED matrix display, where I learned about display drivers and how computers draw graphics on a screen.