

Akshay Sanjay Mulik

Software Engineer

[linkedin.com/in/akshaymulik](https://www.linkedin.com/in/akshaymulik) | <https://akshaymulik.github.io/akshay-portfolio/>

akshaymulik399@gmail.com | +91-9167081745 | Mumbai, MH.

TECHNICAL SKILLS

- Languages: Java, TypeScript, MS SQL Server, Python, R, Bash, HTML5, CSS3
- Libraries/Frameworks: Junit, Jasmine, Karma, Node, Angular, Pyspark, Airflow
- Tools: Git, Jira, Airflow, Jenkins, Maven, Jenkins, AWS EMR/S3/EC2/CLI

Work Experience

GNS Healthcare Inc. DBA as Aitia

Somerville, MA, USA.

Software Engineer.

01/2022 – 03/2023

- As a part of the agile team, participated in bi-weekly sprints, reviewed pull requests, and gave demos.
- Maintained Jenkins CI/CD pipelines to automate building and deployment of daily, test and release builds.
- Upgraded the R-Java backend from JDK 8 to 11 and collaborated with DevOps to set up a new test server.
- Performed and automated some parts of pre-release testing with R. Built scripts that generate graphical reports and help to visually compare the accuracy of the results from disease model runs on REFS AI software.
- Improved Django middleware to clean and process Big Datasets with 30 million rows using pandas and NumPy. Implemented multithreading (SQLAlchemy/Pandas), reduced overall time to 1/8th for processing and loading into MySQL.
- Developed a tool to estimate the cost per job (statistical computation/ML models) on the AWS parallel cluster HPC with Sun Grid Engine (Ubuntu/Linux).
- Contributed to Model Explorer Angular Frontend used for exploring graphs of biomarkers/proteins generated from cancer and disease models. Performed UI bug fixes, code review, and testing. Added D3.js-based context menu to select and color multiple biomarkers on graph, enhanced save and load functionality for models.
- Managed user accounts on production and performed necessary tasks to keep the production up and running.

GNS Healthcare Inc. DBA as Aitia

Somerville, MA, USA.

Algorithm & Simulation Intern.

09/2021 – 12/2021

- Optimize the frequently used simulation workflows in REFS, and reduce resource usage by 8-10x.
- Fixed build/compilation errors for REFS on Apple's Mac OS, and upgraded suitable maven packages.
- Worked in a team to fix the log4j vulnerability affected packages in maven.

EDUCATION

M.S. in Computer Science (Data Analytics), Boston University

September 2019 - May 2021

GPA: 3.56/4.00

Relevant Coursework: Data Science with Python, web analytics and mining, Machine learning, and Big Data Analysis.

MIT Sloan School of Management

June 2020 - August 2020

Certificate Course: Artificial Intelligence: Implications for Business Strategy

BEng in Information Technology, University of Mumbai, India

August 2014 - May 2018

LEADERSHIP EXPERIENCE

RAIT Alumni Association (RAA)

Mumbai, India

Student Member.

02,2015 – 04,2018

Progressed through the following positions: volunteer, technical head, general secretary, and mentor. Performed data cleaning and collection of data from offline sources. Led a team of 8 and organized Alumni meets and mentorship events. Represented the school in the NAAC accreditation assessment, where my school scored an 'A' grade.

ACADEMIC PROJECTS AND PUBLICATIONS

- Developed and hosted a NestJs/Tailwind CSS-based portfolio website.
- 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, and regression algorithms on geodata.
- MET CS 779 Advance Database Management: Database Replication
 - Implemented peer-to-peer database replication on SQL Server 2019 on VMware and geo-replication on Azure.
- 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.
- Automated Indicators for Vehicles(github.com/akshaymulik/aiv I2C MPU6050, android share GPS, Cmake, Shell, C++/C)
 - Built a GPS & 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.](#)
- Built Android Open-Source OS for LG G3 D855 on Ubuntu:
 - Self-learned OS building with the help of open-source resources. Added changes to the device and kernel resources of LG G3 to build with the latest Android OS released by Google. Repository names:
[github.com/akshaymulik/ : AOSP-Custom-Builds-with-debug](https://github.com/akshaymulik/AOSP-Custom-Builds-with-debug), [android device lge g3-common-other](#),
[android kernel lge g3-cm](#), [android kernel lge g3](#)
- 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.
- Implemented Bresenham's line plotting algorithm on Arduino with a 6x6 LED display
(github.com/akshaymulik/bresenham-LED)