

AKSHAY KULKARNI

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akshay-a-kulkarni.github.io

EXPERIENCE

Northeastern University – Vitek Lab DS Research Assistant

Jan 2020 – Present
Boston, MA.

- Developed an end-to-end open-source tool in R to enhance individual & time-series Mass Spec workflows using simulation techniques with Tree-based & Neural network models.
- Created functionality for the Bioconductor MSstatsQC package provided in R by leveraging Statistical Process Control & Machine Learning methods.
- Automated identification & inference of sub-optimal performance in workflows using parallelized Ensembles/XGBoost models and Unsupervised Isolation based models.
- Deployed a reactive web application to increase user interaction by enabling them to upload, test and visualize their data remotely for optimal analysis & report generation.

Northeastern – Khoury College of Computer Sciences Graduate Teaching Assistant

Jan 2019 – Dec 2019
Boston, MA.

- Guided & mentored students in teams or individually during office hours to assist them in reinforcing & learning new concepts in Database Design & Data Collection & Mining.
- Assisted and managed other TAs in creating new coursework and assignments as well as evaluating/grading student submissions and conducting code reviews.
- Supervised teams of students during the design and implementation of their projects throughout the course.

Predikly Junior Data Analyst

Feb 2017 - May 2018
Pune, India.

- Performed data cleaning, visualization & development of dashboards for predictive analytics solutions with client sourced data.
- Worked in the sentiment analysis team, performing mining & tokenization for large corpora of texts ranging from customer incidents, reviews, documents & other sources

Zio Technologies Data/Sales Insights Intern

Aug 2015 - Feb 2016
Dubai, U.A.E.

- Worked with the analytics team to analyze the sales of various AV components (Security, Digital signage) in parts of the Gulf region.
- Directly worked with the managers to strategize and explore new options based on A/B tests and KPIs to take decisions to help maximize profit from the analysis.

NOTABLE PROJECTS

Topic Modelling & Clustering on Complex COVID19 Twitter Networks

- [Python, JavaScript, BigQuery, Beam, spaCy, GenSim, Vue.js]

- Developed an end-to-end tool to allow users or organizations to extract tweets & generate network-graphs to mine & analyze information from any given keyword/area of their interest
- Implemented an ETL pipeline to fetch, filter, process & store tweets from Twitter stream API periodically to Google BigQuery in order to employ graph-based clustering & NLP algorithms
- Deployed the tool as a web app using Vue.js to display rich 3D visualization of complex networks and various topic/clusters surrounding COVID19 or any given seed term

Distributed Matrix Factorization for Movie Recommender Systems

- [Scala, Apache Spark, Breeze, AWS- EC2, S3, & Elastic MapReduce]

- Generated new user recommendations from existing 100 million+ video ratings by fully implementing the scalable A.L.S. algorithm in Scala with Spark & Breeze from scratch.
- Efficiently computed & stored about 8+ billion records which contained predictions of ratings for missing user-video interactions.
- Deployed the algorithm on varying sizes of Spark clusters on AWS-EMR to ascertain viability of factorization for One Class Collaborative Filtering in most real-world datasets/situations.

SKILLS

Programming Languages:

Python, R, Java, Scala, SQL, NoSQL, Bash, JavaScript

Databases & Tools:

MySQL, MariaDB, SQLite, PostgreSQL, MongoDB

DataVis & Webapps:

Tableau, PowerBI, Looker, D3, ggplot, Plotly, DASH, Rshiny

VCS & Cloud Platforms:

GitHub, GitLab, DVC, Heroku, AWS, GCP, Render, Netlify

Web Technologies:

HTML5, CSS3, Bootstrap, Bulma, Vue.js, React

Libraries & Frameworks:

NumPy, Pandas, H2O, Scikit-Learn, OpenCV, NLTK, SpaCy, FastAI, TensorFlow, Keras, PyTorch, Apache Spark, Beam, Lucene, Docker, MapReduce

EDUCATION

Northeastern University

M.S. Data Science
Sep 2018 - May 2020
Boston, MA | GPA - 3.8/4.0

Birla Institute of Technology & Science, Pilani – Dubai

B.E. [Hons] E.C.E.
Aug 2012 - Aug 2016
Dubai, U.A.E | CGPA 7.5/10

EXTRA-CURRICULARS

Data Science Hub Founding

Member - Formed a student organization to provide academic & internship aid by holding outreach events, seminars & forums for all DS program students.