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📈 PROJECTS

2019

Twitter Sentiments
Academic

📍 University of Texas at Dallas

· A Spark Streaming application for live tweets sentiment analysis.

Tech/Skills: *Scala, SBT, Spark, Twitter API, Zookeeper, Kafka, ElasticSearch, Logstash, Kibana*

Repo: *github.com/likarajo/twitter_sentiments*

Link: *likarajo.github.io/twitter_sentiments*

2019

House Price Prediction
Academic

📍 University of Texas at Dallas

· Analyzing house price data from Kaggle and building a model using the data which can be used to predict the final price of a house.

Tech/Skills: *Python, Feature-engineering, AWS S3 EC2 EMR, Spark, Scala, Regression*

Repo: *github.com/likarajo/house_price*

Link: *likarajo.github.io/house_price*

2019

Face recognition
Personal

· Image recording, preparing image data, and training with pre-built Haar-cascade classifier to recognize face.

Tech/Skills: *numpy, cv2, python, Haar-cascade classifier*

Repo: *github.com/likarajo/face_recognition*

Link: *likarajo.github.io/face_recognition*

2019 ● **Chatbot**

Personal

· A chat bot designed to simulate conversation with users base on Artificial Intelligence.

Tech/Skills: *AI, AIML, Python, Flask*

Repo: *github.com/likarajo/chatbot*

Link: *N/A*

2017 ● **Kinship**

Personal

· A tool that finds out what are the related words (kins) to a particular word that twitter users have tweeted.

Tech/Skills: *Python3, Twitter API, TKinter*

Repo: *github.com/likarajo/kinship*

Link: *likarajo.github.io/kinship*

2019 ● **Personal Website V3**

Personal

· Version 3 of my portfolio website.

Tech/Skills: *JS, Gatsby, Netlify, GitHub-Pages*

Repo: *github.com/likarajo/website*

Link: *likarajo.github.io*

2019 ● **Movie Search**

Academic   ● University of Texas at Dallas

· Movies Search based on self-implemented TF-IDF values and Cosine-Similarity computed using movie plot summaries data taken from CMU Movie Summary Corpus.

Tech/Skills: *Spark, Scala, TF-IDF, Cosine-Similarity*

Repo: *github.com/likarajo/MovieSearch*

Link: *N/A*

2019 ● **Airport Rank**

Academic   ● University of Texas at Dallas

· Rank top airports based on self-implemented Page Rank values computed using their connections data from Bureau of Transportation Statistics.

Tech/Skills: *Spark, Scala, Page rank*

Repo: *github.com/likarajo/AirportRank*

Link: *N/A*

2019 ● **News Topic Modelling**
Academic
📍 University of Texas at Dallas

· Find out topic of news from CNN news data

Tech/Skills: *Spark, Scala, Latent-Dirichlet-Allocation*

Repo: *github.com/likarajo/topics*

Link: *N/A*

2019 ● **Social Network Analysis**
Academic
📍 University of Texas at Dallas

· Analysing a social network of users liking each other's posts created in a graph structure.

Tech/Skills: *Spark, Scala, GraphX*

Repo: *github.com/likarajo/social_network*

Link: *N/A*

2019 ● **Crimes Analysis**
Academic
📍 University of Texas at Dallas

· Finding the crimes cluster in a region using Kmeans clustering as silhouette.

Tech/Skills: *Spark, Scala, Kmeans-clustering*

Repo: *github.com/likarajo/crimes*

Link: *N/A*

2019 ● **Car Analysis**
Academic
📍 University of Texas at Dallas

· Classify cars as automatic or manual.
· Predict mileage of cars.

Tech/Skills: *Spark, Scala, Support-Vector-Classifier, Decision-Tree, Logistic-regression, Linear-Regression*

Repo: *github.com/likarajo/car_analysis*

Link: *N/A*

2019 ● **Sentiment on US Airline**
Academic
📍 University of Texas at Dallas

· Analyzing sentiment on US Airlines with Logistic Regression, Random Forest classifier, Naive-Bayes classifier using tweets data on US Airline.

Tech/Skills: *Scala, Spark, Classification*

Repo: *github.com/likarajo/usairline_sentiment*

Link: *N/A*

2019 • **Sentiment of a sentence**
Academic   📍 University of Texas at Dallas

· Used dataset of labelled sentences from Yelp, Amazon, IMDB to learn a model and use the same to analyze the sentiment of new sentences.

Tech/Skills: *Scala, TF-IDF, Classification*

Repo: *github.com/likarajo/sentence_sentiment*

Link: *N/A*

2019 • **Earthquakes**
Personal

· Fetch data from USGS and plot areas across the world that had a 4.5+ earthquake in the last 24 hours.

Tech/Skills: *Python, Basemap, Conda*

Repo: *github.com/likarajo/earthquakes*

Link: *N/A*

2019 • **Temperature Anomaly**
Personal

· Fetch data from NASA and plot regions on map that are fire hazards with high temperature anomaly.

Tech/Skills: *Python, Basemap, Conda*

Repo: *github.com/likarajo/hightemp*

Link: *N/A*

2019 • **Recommender System**
Academic   📍 University of Texas at Dallas

· A recommender systems built using Collaborative filtering on ratings data.
· Used Alternating least squares (ALS) algorithm to learn the latent factors.

Tech/Skills: *Scala, Spark, Collaborative-Filtering, Alternating-Least-Squares-Algorithm, Latent-factors*

Repo: *github.com/likarajo/recommender*

Link: *N/A*

2019 • **Dimensionality Reduction**
Academic   📍 University of Texas at Dallas

· Built a Support Vector Machine (SVM) Classifier model with Stochastic Gradient Decent (SGD) for Principal Component Analysis and Spectral Clustering.

Tech/Skills: *Python3, SVM-Classifier, Principal-Component-Analysis, Spectral-Clustering*

Repo: *github.com/likarajo/dimensionality_reduction*

Link: *N/A*

2019

Ensemble Methods
Academic

📍 University of Texas at Dallas

· Self-implementation of Bagging and Boosting on Decision Tree ID3 algorithm.
· Comparing it with Scikit Learn implementation using Mushroom Data Set.

Tech/Skills: *Python3, Decision-Tree, ID3, Bagging, Boosting, Scikit-Learn*

Repo: *github.com/likarajo/decision_tree_ensemble*

Link: *N/A*

2019

Decison Tree ID3
Academic

📍 University of Texas at Dallas

· Self-implementation of Decision Tree ID3 algorithm.
· Comparing it with Scikit Learn implementation using MONK's Problems and Tic-Tac-Toe Endgame Data Set.

Tech/Skills: *Python3, Decision-Tree, ID3, Scikit-Learn*

Repo: *github.com/likarajo/decision_tree*

Link: *N/A*

2019

Breast Cancer Diagnosis
Academic

📍 University of Texas at Dallas

· Model built for diagnosing and predicting Breast Cancer with Support Vector Machine using Wisconsin Breast Cancer diagnostic data set.

Tech/Skills: *Python, Scikit-Learn, Support-Vector-Classifier*

Repo: *github.com/likarajo/breastcancer_diagnosis*

Link: *N/A*

2019

Titanic Survival
Personal

· Titanic survival prediction with Decision Tree classifier using dataset from Kaggle Competetion.

Tech/Skills: *Spark, Scala, Decision-Tree-Classifier*

Repo: *github.com/likarajo/titanic_survival*

Link: *N/A*

2019

Tetris Game
Academic

📍 University of Texas at Dallas

· A tetris UI game built as part of Computer Graphics curriculum.

Tech/Skills: *Java, AWT, Swing*

Repo: *github.com/likarajo/tetris*

Link: *N/A*

2018 ● **CICD**
Personal

· Continuous Integration and continuous deployment using Jenkins.

Tech/Skills: *Jenkins, DevOps*

Repo: *github.com/likarajo/devops-helloworld*

Link: *likarajo.github.io/devops-helloworld*

2018 ● **911Calls**
Personal

· Data Science and visualization on 911 calls data.

Tech/Skills: *Python3*

Repo: *github.com/likarajo/ds911calls*

Link: *N/A*

2015 ● **MQ Reporting Tools**
Professional   📍IBM

· Developed a Java UI for daily queue status report generation for the core application on a single click eliminating manual effort.

Tech/Skills: *Java, SWT, Unix, Bash*

Repo: *github.com/likarajo/mqreporting*

Link: *N/A*

2015 ● **MQ Statistics Tools**
Professional   📍IBM

· Automated daily queue status monitoring and reporting for the core application eliminating manual effort.

Tech/Skills: *Unix, Bash*

Repo: *github.com/likarajo/mqstats*

Link: *N/A*

2017 ● **Rock Paper Scissor game**
Personal

· A One-player rock paper scissor game built using Python

Tech/Skills: *Python3, TKinter*

Repo: *github.com/likarajo/rock-paper-scissor*

Link: *likarajo.github.io/rock-paper-scissor*

2018   ● **Dallas Care**
Academic

· Relational database designed for a hospital

Tech/Skills: *N/A*

Repo: *github.com/likarajo/DallasCare*

Link: *N/A*

2017   ● **Clock**
Personal

· An online clock that can be customized; can be reused in any web page.

Tech/Skills: *HTML, CSS, JS*

Repo: *github.com/likarajo/clock*

Link: *likarajo.github.io/clock*

2016   ● **Brick Breaker Game**
Personal

· A One-player brick breaker game built using Javascript

Tech/Skills: *HTML, CSS, JS*

Repo: *github.com/likarajo/brickbreaker*

Link: *likarajo.github.io/brickbreaker*

✏ WRITINGS

2018   ● **Containerization**
Personal

· A beginners guide for Creating and Publishing Docker Image for a Python app.

Tech/Skills: *Containerization, Docker*

Repo: *N/A*

Link: *likarajoblogs.wordpress.com/2018/10/02/creating-and-publishing-docker-image-for-a-python-app*

2018   ● **CICD**
Personal

· A guide to learn the use of Jenkins for Continuous Integration and Continuous Deployment of projects.

Tech/Skills: *Containerization, Docker, Jenkins, DevOps*

Repo: *N/A*

Link: *likarajoblogs.wordpress.com/2018/12/29/devops-continuous-integration-and-continuous-deployment*

2018 ● **Python UI Game**

Personal

· A guide to build and containerize a GUI application

Tech/Skills: *Containerization, Docker, Jenkins, Python3, Tkinter*

Repo: *N/A*

Link: *linkedin.com/pulse/basics-python-tkinter-rajarshi-chattopadhyay*

2019 ● **Summer 2019 Internship Experience**

Professional   📍 Copart Inc

· An article based on my learning outcomes and experience during my Summer internship at Copart

Tech/Skills: *N/A*

Repo: *N/A*

Link: *linkedin.com/pulse/software-engineer-internship-experience-summer-2019-chattopadhyay*

2014 ● **RISC Processor using Harvard Architecture**

Academic   📍 West Bengal University of Technology

· Based on my Bachelor's Thesis: Overview of designing and developing a Reduced Instruction Set Computing microprocessor, using Harvard Architecture.

Tech/Skills: *RISC, Harvard-Architecture, Microprocessor, Assembly-language*

Repo: *N/A*

Link: *likarajoblogs.wordpress.com/2018/06/08/risc-using-harvard*

2019 ● **Functional and Object Oriented Programming**

Personal

· An article based on my learning outcomes from attending and informational session on Functional Programming.

Tech/Skills: *Fucntional-Programming, OOP*

Repo: *N/A*

Link: *linkedin.com/pulse/functional-vs-object-oriented-programming-rajarshi-chattopadhyay*

2018 ● **Big Data in Agriculture**

Personal

· My thoughts on use of big data in agriculture in the modern modern world.

Tech/Skills: *N/A*

Repo: *N/A*

Link: *likarajoblogs.wordpress.com/2018/06/04/bigdatainagriculture*