

# RAJARSHI CHATTOPADHYAY

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GitHub: [github.com/likarajo](https://github.com/likarajo)  
Website: [likarajo.github.io](https://likarajo.github.io)  
Portfolio: [likarajo.github.io/Projects](https://likarajo.github.io/Projects)  
LinkedIn: [linkedin.com/in/likarajo](https://linkedin.com/in/likarajo)  
Articles: [LinkedIn Articles](#)  
Blogs: [likarajoblogs.wordpress.com](https://likarajoblogs.wordpress.com)  
Digital Badges: [youracclaim.com/users/likarajo](https://youracclaim.com/users/likarajo)  
CV: [likarajo.github.io/cv](https://likarajo.github.io/cv)  
Resume: [likarajo.github.io/cv/resume](https://likarajo.github.io/cv/resume)  
Email: [likarajo@gmail.com](mailto:likarajo@gmail.com)  
Phone: (469) 380-2696

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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](https://github.com/likarajo/twitter_sentiments)

Link: [likarajo.github.io/twitter\\_sentiments](https://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](https://github.com/likarajo/house_price)

Link: [likarajo.github.io/house\\_price](https://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](https://github.com/likarajo/face_recognition)

Link: [likarajo.github.io/face\\_recognition](https://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](https://github.com/likarajo/chatbot)  
Link: *N/A*
- 2020
- **Sentiment of Movie Review**  
Personal
    - Deep Learning model built with NN, CNN, RNN using pretrained GloVe word embeddings from Stanford Core NLPTech/Skills: *Keras, TensorFlow, Scikit-learn, NLP, Neural Networks, Python3*  
Repo: [github.com/likarajo/movie\\_sentiment](https://github.com/likarajo/movie_sentiment)  
Link: *N/A*
- 2019
- **Customer Churn**  
Personal
    - Classification model to predict whether or not the customer is likely to leave the bank based on various customer characteristics using PyTorchTech/Skills: *PyTorch, Classification, Python3*  
Repo: [github.com/likarajo/customer\\_churn](https://github.com/likarajo/customer_churn)  
Link: *N/A*
- 2019
- **Passengers Count**  
Personal
    - Time Series Prediction to predict the count of traveling passengers based on historical data using Long Short Term Memory (LSTM) Neural NetworkTech/Skills: *LSTM, Neural-Network, Time-Series-Prediction, Python3*  
Repo: [github.com/likarajo/passengers\\_count](https://github.com/likarajo/passengers_count)  
Link: *N/A*
- 2019
- **Car Evaluation**  
Personal
    - Deep learning classification model to evaluate a car using Tensorflow2.0Tech/Skills: *TensorFlow2.0, Classification, Deep-Learning, Neural-Network, Python3*  
Repo: [github.com/likarajo/car\\_evaluation](https://github.com/likarajo/car_evaluation)  
Link: *N/A*

- 2019
- **Petrol Consumption**  
Personal
    - Deep learning regression model to predict petrol consumption using Tensorflow2.0Tech/Skills: *TensorFlow2.0, Regression, Deep-Learning, Neural-Network, Python3*  
Repo: [github.com/likarajo/petrol\\_consumption](https://github.com/likarajo/petrol_consumption)  
Link: *N/A*
- 2019
- **Language Translation**  
Personal
    - Deep Learning language translation model built with Keras using LSTM Neural Machine Translation with seq2seq encoder-decoder architectureTech/Skills: *Keras, Deep-Learning, LSTM, Neural-Machine-Translation, Python3*  
Repo: [github.com/likarajo/language\\_translation](https://github.com/likarajo/language_translation)  
Link: *N/A*
- 2019
- **Text Generation**  
Personal
    - Deep Learning model to predict the next word based on a sequence of input words built with Keras using LSTM Neural NetworkTech/Skills: *Keras, Deep-Learning, LSTM, Neural-Network, Python3*  
Repo: [github.com/likarajo/comment\\_toxicity](https://github.com/likarajo/comment_toxicity)  
Link: *N/A*
- 2019
- **Comment Toxicity**  
Personal
    - Multi-label classification model to predict the probability of each type of toxicity for comments using deep learning with Keras.Tech/Skills: *Keras, Deep-Learning, Neural-Network, Classification, Python3*  
Repo: [github.com/likarajo/text\\_generation](https://github.com/likarajo/text_generation)  
Link: *N/A*
- 2019
- **Business reviews**  
Personal
    - Multi-Input classification model to classify user reviews regarding different businesses using deep-learning with KerasTech/Skills: *Keras, Deep-Learning, Neural-Network, Classification, Python3*  
Repo: [github.com/likarajo/business\\_reviews](https://github.com/likarajo/business_reviews)  
Link: *N/A*

- 2020 • **Customer Targeting**  
Personal  
• Binary Classification model to predict whether a customer will be interested on a particular advertisement based on customer Ad-Clicks data.  
Tech/Skills: *Scikit-learn, Classification, Logistic-Regression, Decision-Tree-Classifier, Python3*  
Repo: [github.com/likarajo/customer\\_targeting](https://github.com/likarajo/customer_targeting)  
Link: *N/A*
- 2020 • **Black Friday Shopping**  
Personal  
• Regression model to predict the amount of money that a person is likely to spend on Black Friday based on features like gender, occupation, age etc.  
Tech/Skills: *Scikit-learn, Regression, LinearRegression, Python3*  
Repo: [github.com/likarajo/blackfriday\\_shopping](https://github.com/likarajo/blackfriday_shopping)  
Link: *N/A*
- 2020 • **Text Summarization**  
Personal  
• Automatic text summarization with simple NLP-based technique to summarize textual data from Wikipedia articles.  
Tech/Skills: *NLTK, Text-Summarization, NLP, Python3*  
Repo: [github.com/likarajo/text\\_summarization](https://github.com/likarajo/text_summarization)  
Link: *N/A*
- 2020 • **Wine Quality**  
Personal  
• Classification model to predict the quality of wine based on different attributes.  
Tech/Skills: *Scikit-learn, Clustering, Hierarchical-Clustering, Agglomerative-Clustering, Python3*  
Repo: [github.com/likarajo/wine\\_quality](https://github.com/likarajo/wine_quality)  
Link: *N/A*
- 2020 • **Shopping Trends**  
Personal  
• Clustering to segment customers into different groups based on their shopping trends using Hierarchical Agglomerative Clustering.  
Tech/Skills: *Scikit-learn, Classification, Bayes-Theorem, Naive-Bayes-Classifier, NLTK, Python3*  
Repo: [github.com/likarajo/shopping\\_trends](https://github.com/likarajo/shopping_trends)  
Link: *N/A*

- 2020
- **Spam SMS**  
Personal
    - Classification to detect Spam SMS using Naive Bayes' Classifier.Tech/Skills: *Scikit-learn, Classification, Random-Forest-Classifier, Cross-Validation, Grid-Search, Python3*  
Repo: [github.com/likarajo/spam\\_sms](https://github.com/likarajo/spam_sms)  
Link: *N/A*
- 2020
- **Glass Type**  
Personal
    - Classification to find the type of glass based on their oxide content after Dimensionality ReductionTech/Skills: *Scikit-learn, Classification, Random-Forest-Classifier, Dimensionality-Reduction, PCA, LDA, Python3*  
Repo: [github.com/likarajo/glass\\_type](https://github.com/likarajo/glass_type)  
Link: *N/A*
- 2020
- **Currency Note Authenticity**  
Personal
    - Classification to predict if a bank currency note is authentic based on its image features using multiple classifiers.Tech/Skills: *Scikit-learn, Classification, Decision-Tree-Classifier, Random-Forest-Classifier, K-Nearest-Neighbors, Support-Vector-Classifier, Python3*  
Repo: [github.com/likarajo/currencynote\\_authenticity](https://github.com/likarajo/currencynote_authenticity)  
Link: *N/A*
- 2020
- **Weather Prediction**  
Personal
    - Regression to predict temperature based on different weather aspectsTech/Skills: *Scikit-learn, Regression, Linear-Regression, Python3*  
Repo: [github.com/likarajo/weather\\_prediction](https://github.com/likarajo/weather_prediction)  
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: *Twitter API, Tkinter, Python3*  
Repo: [github.com/likarajo/kinship](https://github.com/likarajo/kinship)  
Link: [likarajo.github.io/kinship](https://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](https://github.com/likarajo/website)  
 Link: [likarajo.github.io](https://likarajo.github.io)
- 2019 • **Movie Search**  University of Texas at Dallas  
 Academic
  - 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: *TF-IDF, Cosine-Similarity, Spark, Scala*  
 Repo: [github.com/likarajo/MovieSearch](https://github.com/likarajo/MovieSearch)  
 Link: *N/A*
- 2019 • **Airport Rank**  University of Texas at Dallas  
 Academic
  - Rank top airports based on self-implemented Page Rank values computed using their connections data from Bureau of Transportation Statistics.
 Tech/Skills: *Page rank, Spark, Scala*  
 Repo: [github.com/likarajo/AirportRank](https://github.com/likarajo/AirportRank)  
 Link: *N/A*
- 2019 • **News Topic Modelling**  University of Texas at Dallas  
 Academic
  - Find out topic of news from CNN news data
 Tech/Skills: *Latent-Dirichlet-Allocation, Spark, Scala*  
 Repo: [github.com/likarajo/topics](https://github.com/likarajo/topics)  
 Link: *N/A*
- 2019 • **Text to Number**  Project  
 Personal
  - Implementation of Text Vectorization methods - Bag-of-words, TF-IDF, Ngrams
 Tech/Skills: *Scikit-learn, NLTK, Bag-of-words, TF-IDF, Ngrams, Python3*  
 Repo: [github.com/likarajo/text2number](https://github.com/likarajo/text2number)  
 Link: *N/A*

- 2019 • **Social Network Analysis**  University of Texas at Dallas  
Academic  
• Analysing a social network of users liking each other's posts created in a graph structure.  
Tech/Skills: *GraphX, Spark, Scala*  
Repo: [github.com/likarajo/social\\_network](https://github.com/likarajo/social_network)  
Link: *N/A*
- 2019 • **Crimes Analysis**  University of Texas at Dallas  
Academic  
• Finding the crimes cluster in a region using Kmeans clustering as silhouette.  
Tech/Skills: *Kmeans-clustering, Spark, Scala*  
Repo: [github.com/likarajo/crimes](https://github.com/likarajo/crimes)  
Link: *N/A*
- 2019 • **Car Analysis**  University of Texas at Dallas  
Academic  
• Classify cars as automatic or manual.  
• Predict mileage of cars.  
Tech/Skills: *Support-Vector-Classifier, Decision-Tree, Logistic-regression, Linear-Regression, Spark, Scala*  
Repo: [github.com/likarajo/car\\_analysis](https://github.com/likarajo/car_analysis)  
Link: *N/A*
- 2019 • **Sentiment on US Airline**  University of Texas at Dallas  
Academic  
• Analyzing sentiment on US Airlines with Logistic Regression, Random Forest classifier, Naive-Bayes classifier using tweets data on US Airline.  
Tech/Skills: *Classification, Spark, Scala*  
Repo: [github.com/likarajo/usairline\\_sentiment](https://github.com/likarajo/usairline_sentiment)  
Link: *N/A*
- 2019 • **Sentiment of a sentence**  University of Texas at Dallas  
Academic  
• 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: *TF-IDF, Classification, Scala*  
Repo: [github.com/likarajo/sentence\\_sentiment](https://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: *Basemap, Conda, Python*  
Repo: [github.com/likarajo/earthquakes](https://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: *Basemap, Conda, Python*  
Repo: [github.com/likarajo/hightemp](https://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: *Collaborative-Filtering, Alternating-Least-Squares-Algorithm, Latent-factors, Spark, Scala*  
Repo: [github.com/likarajo/recommender](https://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: *SVM-Classifier, Principal-Component-Analysis, Spectral-Clustering, Python3*  
Repo: [github.com/likarajo/dimensionality\\_reduction](https://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: *Scikit-Learn, Decision-Tree, ID3, Bagging, Boosting, Python3*  
Repo: [github.com/likarajo/decision\\_tree\\_ensemble](https://github.com/likarajo/decision_tree_ensemble)  
Link: *N/A*

2019	<ul style="list-style-type: none"> <li>● <b>Decision Tree ID3</b> Academic           <ul style="list-style-type: none"> <li>• Self-implementation of Decision Tree ID3 algorithm.</li> <li>• Comparing it with Scikit Learn implementation using MONK's Problems and Tic-Tac-Toe Endgame Data Set.</li> </ul> <p>Tech/Skills: <i>Scikit-Learn, Decision-Tree, ID3, Python3</i></p> <p>Repo: <a href="https://github.com/likarajo/decision_tree">github.com/likarajo/decision_tree</a></p> <p>Link: N/A</p> </li> </ul>	📍 University of Texas at Dallas
2019	<ul style="list-style-type: none"> <li>● <b>Breast Cancer Diagnosis</b> Academic           <ul style="list-style-type: none"> <li>• Model built for diagnosing and predicting Breast Cancer with Support Vector Machine using Wisconsin Breast Cancer diagnostic data set.</li> </ul> <p>Tech/Skills: <i>Scikit-Learn, Support-Vector-Classifier, Python3</i></p> <p>Repo: <a href="https://github.com/likarajo/breastcancer_diagnosis">github.com/likarajo/breastcancer_diagnosis</a></p> <p>Link: N/A</p> </li> </ul>	📍 University of Texas at Dallas
2019	<ul style="list-style-type: none"> <li>● <b>Titanic Survival</b> Personal           <ul style="list-style-type: none"> <li>• Titanic survival prediction with Decision Tree classifier using dataset from Kaggle Competition.</li> </ul> <p>Tech/Skills: <i>Decision-Tree-Classifier, Spark, Scala</i></p> <p>Repo: <a href="https://github.com/likarajo/titanic_survival">github.com/likarajo/titanic_survival</a></p> <p>Link: N/A</p> </li> </ul>	
2019	<ul style="list-style-type: none"> <li>● <b>Tetris Game</b> Academic           <ul style="list-style-type: none"> <li>• A tetris UI game built as part of Computer Graphics curriculum.</li> </ul> <p>Tech/Skills: <i>Java, AWT, Swing</i></p> <p>Repo: <a href="https://github.com/likarajo/tetris">github.com/likarajo/tetris</a></p> <p>Link: N/A</p> </li> </ul>	📍 University of Texas at Dallas
2018	<ul style="list-style-type: none"> <li>● <b>CICD</b> Personal           <ul style="list-style-type: none"> <li>• Continuous Integration and continuous deployment using Jenkins.</li> </ul> <p>Tech/Skills: <i>Jenkins, DevOps</i></p> <p>Repo: <a href="https://github.com/likarajo/devops-helloworld">github.com/likarajo/devops-helloworld</a></p> <p>Link: <a href="https://likarajo.github.io/devops-helloworld">likarajo.github.io/devops-helloworld</a></p> </li> </ul>	

2018	● <b>911Calls</b> Personal <ul style="list-style-type: none"><li>• Data Science and visualization on 911 calls data.</li></ul> Tech/Skills: <i>Python3</i> Repo: <a href="https://github.com/liikarajo/ds911calls">github.com/liikarajo/ds911calls</a> Link: <i>N/A</i>	
2015	● <b>MQ Reporting Tools</b> Professional <ul style="list-style-type: none"><li>• Developed a Java UI for daily queue status report generation for the core application on a single click eliminating manual effort.</li></ul> Tech/Skills: <i>Java, SWT, Unix, Bash</i> Repo: <a href="https://github.com/liikarajo/mqreporting">github.com/liikarajo/mqreporting</a> Link: <i>N/A</i>	📍 IBM
2015	● <b>MQ Statistics Tools</b> Professional <ul style="list-style-type: none"><li>• Automated daily queue status monitoring and reporting for the core application eliminating manual effort.</li></ul> Tech/Skills: <i>Unix, Bash</i> Repo: <a href="https://github.com/liikarajo/mqstats">github.com/liikarajo/mqstats</a> Link: <i>N/A</i>	📍 IBM
2017	● <b>Rock Paper Scissor game</b> Personal <ul style="list-style-type: none"><li>• A One-player rock paper scissor game built using Python</li></ul> Tech/Skills: <i>Python3, Tkinter</i> Repo: <a href="https://github.com/liikarajo/rock-paper-scissor">github.com/liikarajo/rock-paper-scissor</a> Link: <a href="https://liikarajo.github.io/rock-paper-scissor">liikarajo.github.io/rock-paper-scissor</a>	
2018	● <b>Dallas Care</b> Academic <ul style="list-style-type: none"><li>• Relational database designed for a hospital</li></ul> Tech/Skills: <i>N/A</i> Repo: <a href="https://github.com/liikarajo/DallasCare">github.com/liikarajo/DallasCare</a> Link: <i>N/A</i>	

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](https://github.com/likarajo/clock)

Link: [likarajo.github.io/clock](https://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](https://github.com/likarajo/brickbreaker)

Link: [likarajo.github.io/brickbreaker](https://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](https://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](https://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](https://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](https://www.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: [likarajjoblogs.wordpress.com/2018/06/08/risc-using-harvard](https://likarajjoblogs.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: Functional-Programming, OOP

Repo: N/A

Link: [linkedin.com/pulse/functional-vs-object-oriented-programming-rajarshi-chattopadhyay](https://www.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: [likarajjoblogs.wordpress.com/2018/06/04/bigdatainagriculture](https://likarajjoblogs.wordpress.com/2018/06/04/bigdatainagriculture)