RAFAT ASHRAF JOY

rafat.joy99@gmail.com | rajoy99 | rajoy99 | +8801309078826
Portfolio website: rajoy99.github.io/academic

Standardized Test Scores

Graduate Records Examination (GRE) :

Total	Quantitative	Verbal	Analytical
328	169	159	4.5

Test of English as a Foreign Language (TOEFL):

Total	Reading	Writing	Speaking	Listening

Education

Shahjalal University of Science and Technology Bangladesh
B.Sc Computer Science and Engineering *Jan 2018 – Dec 2021*

- CGPA : 3.5/4.0

Experience

Machine Learning Engineer(Intern) June 2020 – August 2020
Pioneer Alpha *Remote, part-time*

- Deployed models to web using Flask web framework
- Gained hands-on experience of Scikit-learn, Keras, PyTorch libraries

Projects

A Lasso regularized Logistic Regression model to detect COVID-19 | June – Aug 2020

- This project applies a LASSO-regularized logistic regression model to detect Covid-19 from Raman spectroscopy data. As the number of features was very large compared to number of observations, we resorted to LASSO regression to avoid overfitting. The model is initialized with a liblinear solver along with L1 (LASSO) penalty, and achieved 97 % accuracy on the test dataset.

Customer Churn Prediction Web App | *Scikit-learn, Flask* June – Aug 2020

- A multi-layer perceptron classifier model runs in the backend of this web app to predict customer churn in context of the telecom industry. The model has attained 96 % accuracy on the test dataset. This project has been deployed to Heroku utilizing Flask web framework.

Pulsar star prediction | *Scikit-learn* June – Aug 2020

- A random forest classifier model to distinguish pulsar stars from others. The dataset used in this project is HTRU2. The model achieved 97.82 % accuracy on the test dataset. This is an example of class imbalance problem. So, to handle the class imbalance problem, I leveraged the setting of random forest classifier's 'class weight = balanced' wherein classes are automatically weighted inversely proportional to how frequently they appear in the data.

Skills

Languages: Python, R, MATLAB, C/C++, SQL, Java, Scala
Libraries: XGBoost, CatBoost, PyTorch, Keras, Tensorflow, Scikit-learn, Plotly, Pandas, Seaborn
Developer Tools: Jupyter Notebooks, Git, Google Colab, VS Code, DeepNote
Databases: MySQL, MongoDB
Web Framework: Flask, Django
Others: Linux, Docker

Research Interest

- Explainable Machine learning
- Time Series Analysis
- Computer Vision
- Geo-spatial Data Science

Courses Taken

Structured Programming language, Data Structures, Algorithms, Object Oriented Programming, Linear Algebra, Calculus, Laplace Transform, Fourier Analysis, Digital Signal Processing, Electrical Circuits, Semiconductor, Software Engineering and Design Patterns, Database Management System, Communication Engineering, Computer Networking, Statistics, Economics, Classical Mechanics, Electricity and Magnetism.

MOOCs

1. Machine Learning with Python-From Linear Models to Deep Learning- MITx on Edx
2. Introduction to TensorFlow for ArtificialIntelligence, Machine Learning, and Deep Learning - Deeplearning.ai on Coursera
3. Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization - Deeplearning.ai on Coursera
4. Mathematics for Machine Learning - Imperial College on Coursera
5. Neural Networks and Deep Learning - Deeplearning.ai on Coursera
6. Getting Started with AWS Machine Learning- AWS on Coursera
7. Applied Machine Learning in Python - University of Michigan on Coursera
8. SQL - Stanford Online
9. Time Series Analysis in Python - DataCamp
10. Statistical Thinking in Python - DataCamp
11. Introduction to R - DataCamp
12. Data Science Math Skills - Duke University on Coursera