

Redowan DELOWAR

Data Scientist | Instructor

@ redowan.nafi@gmail.com in linkedin.com/in/redowan
github.com/rednafi rednafi.github.io
01787050842 Dhaka, Bangladesh

Individual with exceptional research skills and ability to communicate complex concepts across disparate business units. Seeking the job of a Data Scientist to utilize data analysis experience and background in model construction, development and deployment.

PROFESSIONAL EXPERIENCE

Present -
September 2018

Data Scientist, SHOPUP, Dhaka

- > Worked closely with software engineering and product management teams to frame problems, both from engineering and business perspective
- > Built and deployed CNN driven automatic product categorization models
- > Constructed data wrangling pipelines and time series models in finance paradigm
- > Acquired specialization in tree based predictive modeling and validation
- > Worked with the development teams to ensure accurate integration of machine learning models into platforms
- > Increased the accuracy of loan default forecasting algorithm from 55 to 75 percent.
- > Deployed in-house rest APIs

Data Wrangling Visualization Image Processing Time Series Analysis Predictive Modeling Rest APIs

August 2018
June 2018

Research Assistant, GAZE TECHNOLOGY, Dhaka

- > Actively took part in the development of FRCNN based object detection and CNN based traffic sign recognition system
- > Tuned hyperparameters of computer vision models via Bayesian Tree-structured Parzen Estimator, Grid Search, l1-l2 Regularization etc
- > Carried on adversarial attacks for checking model robustness
- > Managed image metadata in multiple non-relational databases

Computer Vision Hyperparameter Tuning Overfitting Prevention Database Navigation

SKILLS

Programming Languages	Python, Bash, C++ (Elementary), JavaScript (Elementary)
Statistical Analysis	Numpy, Scipy, Statsmodels, Scikit-learn, PyMC3, Pyro, Auto sklearn, Cloud Auto ML
Data Visualization	Matplotlib, Seaborn, Pyviz, Altair, Plotly, Plotly Express, Dash, Google Data Studio, Networkx, Gephi, Bokeh, Pygal
Dataframe Manipulation	Pandas, Modin, Dask, Swifter
Time-series Analysis	Prophet, Tsfresh
Image Processing	OpenCV, Pillow, Scikit-image, SimpleCV, Mahotas, Pgmagick
Text Processing	NLTK, SpaCy, Gensim, Polyglot
Deeplearning Frameworks	Tensorflow (Keras Wrapper), Pytorch (elementary)
Web Frameworks	Flask, Scrappy, BeautifulSoup, Selenium
Database Technology	Microsoft SQL Server, MySQL, Google Cloud SQL, Google Big Query, MongoDB
Misc.	Featuretools, UMAP, LIME, PDPbox, Loguru, Hyperopt, Hyperas, Talos, Hyperopt-sklearn, Scikit-multilearn, Skorch
Development Tools	Jupyter Notebook, VS Code, PyCharm, Nano, Git, DVC, Docker, Dbeaver, Robo3t

EDUCATION

- 2018 - 2014 **BSc. in EEE**, Ahsanullah University of Science and Technology
CGPA : 3.49 out of 4.00
- 2013 - 2011 **Higher Secondary Certificate**, Notre Dame College
GPA : 5.00 out of 5.00

PROJECTS

DIGIT GENERATION AND CLASSIFICATION FOR BANGLADESHI LICENSE PLATE DETECTION

2019

 github.com/rednafi/prinumco

- > Collected 107 unique Bangla fonts and programmatically generated 2500 images of Bengali digits
- > Collected 1500 real images of license plates and cropped out individual digits
- > Applied 40 types of data augmentation on both the real and programmatically generated image sets to generate 200k synthetic images
- > Constructed a **MobileNetV2** based CNN architecture for digit recognition
- > Validated the model on real digit dataset

Python3 Keras Plotly Express Augmentor

AUDIO TAGGING

2019

 github.com/rednafi/urban-sound-classification

- > Audio feature extraction in the form of MFCC, Spectrogram, Zero crossing points, Spectral rolloff etc
- > Classification and inference via CNN based Xception model

Python3 Keras Matplotlib Plotly

INDOOR MOVEMENT PREDICTION

2019

 github.com/rednafi/indoor-movement-prediction

- > Predicting user movements from temporal streams of RSS measured between the nodes of a WSN
- > Incorporation of gradient boosting based ensemble models for movement type recognition

Python3 Scikit-learn Plotly

AUTOMATING GITHUB PROJECT INITIALIZATION

2019

 github.com/rednafi/protomate

- > CLI tool for creating new Github project
- > Added Github password hashing, prompt to save password, prompt to add .gitignore, project language detection etc

Python3 Bash Poetry Questionary

PUBLICATIONS

2019 Facial Emotion Recognition from Single Modal Information, ICASERT 2019

TEACHING AND MENTORING

July 2018
May 2018

Chief Instructor | Intro to Machine Learning, SBSC CLUB, BUET

- > Introduced machine learning fundamentals
- > Taught statistical **EDA** techniques like **PCA**, **TSNE**, **SVD** etc
- > Data munging using **Pandas**
- > In depth demonstration of computer vision and text processing algorithms via **Keras** API

Python Jupyter Notebook Pandas Anaconda OpenCV SpaCy NLTK