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EDUCATION

Shahjalal University of Science and Technology

Bachelor of Computer Science and Engineering; GPA: 3.59/4.00

Sylhet, Bangladesh

Jan 2018 - Dec 2022

EXPERIENCE

Dynamic Solution Innovators Ltd.

Junior Software Engineer

Dhaka, Bangladesh

April 2023 - Present

- Got hands on experience with Ruby on Rails.

PROJECTS

- **osman**: A pip package which lets data scientists/developers oversample class imbalanced tabular data by using deep generative models. It offers two APIs, they are: WGAN-GP and Variational Auto Encoder. The APIs were built using PyTorch deep learning framework
- **Carted**: An E-commerce website implemented by micro-services architecture. It has two different interfaces - for clients and suppliers. The transactions are settled by a separate banking API. React and Express were used in frontend and backend respectively.
- **Snap the Leaf**: This web-app lets the users diagnose the disease of plants just by uploading the image of an infected leaf. Four deep learning model runs in the backend of this web app, which will perform the prediction task. One model is Baseline CNN and other 3 models are Transfer learning based (DenseNet, ResNet, ImageNet). The deep learning models were trained using Keras API on Tensorflow Backend.
- **Super Resolution GAN for precipitation downscaling**: A super resolution GAN based approach for converting low res precipitation data(for south asia region) to its high res equivalent. The low res data is 16*16 and the high res data is 64*64. For evaluating the performance of the SRGAN model, PSNR and SSIM were used.
- **Battery Voltage Predictor App**: A desktop GUI application to predict battery voltage from six features. 2 machine learning model runs under the hood of the application to make inferences. The machine learning models were trained on DFT calculated voltage data. In addition, the predictions are explained by SHAP, which is a machine learning interpretability library.

PUBLICATIONS

1. **Fine Tuning the Prediction of the Compressive Strength of Concrete : A Bayesian Optimization Based Approach**, in IEEE Xplore. doi:10.1109/INISTA52262.2021.9548593
2. **An Interpretable Catboost Model to Predict the Power of Combined Cycle Power Plants**, in IEEE Xplore. doi:10.1109/ICIT52682.2021.9491700

PROGRAMMING SKILLS

Languages: Python, Java, Ruby

Web Frameworks: Rails, Flask, React JS, Express JS, Node JS

Libraries: PyTorch, Tensorflow, Scikit-learn, Numpy, Pandas

Others: Git, Linux, Latex