Edge AI and Robotics Teaching Kit

Module 1 Lab:   
**Time-series Forecasting and Prediction using Pytorch**

The purpose of this lab is to do time series forecasting and prediction using pytorch. Supports Jetson Nano, TX1/TX2, AGX Xavier, and Xavier NX.

Each notebook is individual and consists of the following four notebooks.

* Weather Forecasting(hand-coded)
* Weather Forecasting
* Solar Power Prediction
* Space Shuttle Classification

**Notes:**

* Weather Forecasting(hand-coded) shows how you build your model and train your model from scratch. It only predicts temperature.
* Firstly you will go through the ‘’’hand-coded’ way.
* Then there are notebooks that use train.py for the flexibility.Train.py allows you to:
  + pick any number of inputs / outputs
  + support both regression and classification
  + easily change the model
  + automatic plotting
* There are 3 notebooks that use train.py:
  + on the weather data (with multiple inputs/outputs)
  + on the solar data
  + on the space shuttle data
* For the lab exercise, we encourage you to source your own data, prepare it, and then make a model with train.py. Datasets typically require a little preparation, you can see those scripts here:

https://github.com/dusty-nv/pytorch-timeseries/tree/main/scripts

**Starting the Container**

$ git clone https://github.com/dusty-nv/pytorch-timeseries

$ cd pytorch-timeseries

$ docker/run.sh

$ cd pytorch-timeseries

**References:**

* Please refer to this [page](https://github.com/dusty-nv/pytorch-timeseries) to learn about GitHub repository.