GRU Action Forecast

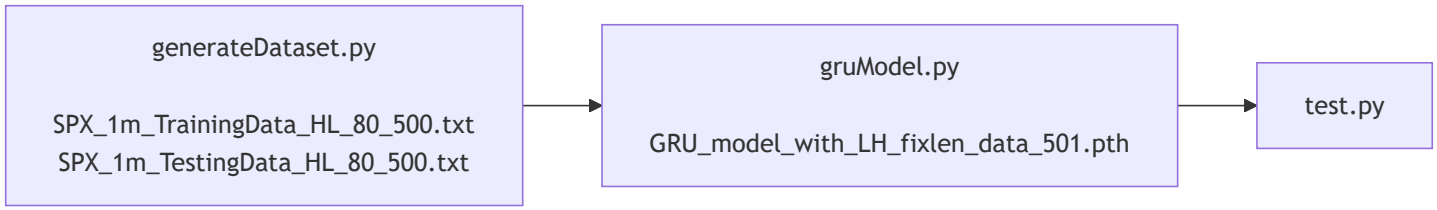


Table of Contents

Todo

1. change trainning data format
2. send Test output to a file for future reference
3. all global variables should read from a configuration file
4. clean code make all definitions at begining
5. use class
6. get rid of zigzagplus1.py
7. optimize Debug
8. optimize logging

Generate Dataset

- Generate dataset Source Code

Output files

1. traning dataset
2. testing dataset

5 column data group

1. day of weeek
2. time of day
3. close price
4. velocity
5. accelerat

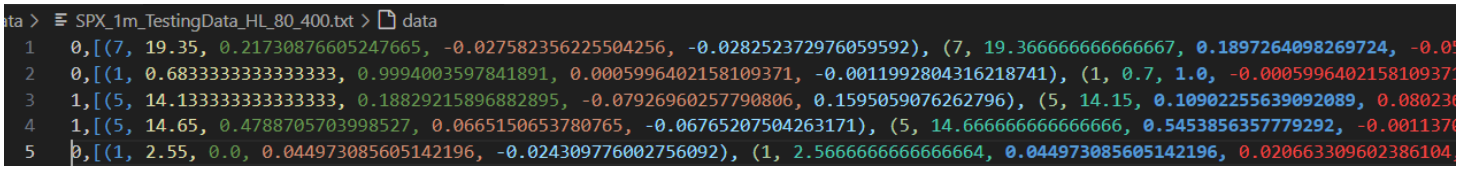
first column
1=long
0=short

total 80 points end by long/short point for each row

Input

SQLite database file: [data/stock_bigdata_2019-2023.db]

Output



- Trainning Dataset
- Testing Dataset

Create GRU Model

- Generate GRU Action Forecast model

Input

- Trainning Dataset
- Testing Dataset

Output

- /GRU_model_with_LH_fixlen_data_501.pth

Test the model

- Test model get R-Square and MSE

Input

- /GRU_model_with_LH_fixlen_data_501.pth

Output

```
Current date and time: 2024-09-23 09:36:55
1. Load testing data from data/SPX_1m_TestingData_HL_80_500.txt
Data shape: (1684, 80, 5)
Targets shape: (1684, 1)
2. Define dataset and dataloader
Current date and time: 2024-09-23 09:36:56
3. Instantiate the model, define the loss function and the optimize
Current date and time: 2024-09-23 09:36:56
Number of layers: 5
3. Load trained model from GRU_model_with_LH_fixlen_data_501.pth
4. Start testing loop
Current date and time: 2024-09-23 09:36:56
Test Loss (MSE): 0.00353319
Mean Absolute Error (MAE): 0.02026430
R-squared (R2): 0.99644500
Current date and time: 2024-09-23 09:36:58
Saved categorized signals to file : data/SPX_1m_HL_80_500_GRU_fixlen_500.txt
Current date and time: 2024-09-23 09:36:59
```