**MOORE CAPITAL – CASE STUDY – OWEN THACKER**

SUMMARY

The project overall was more complex than what I first had imagined. I rather easily made the changed from downloading data from Quandl to reading from the provided CSV, ensuring consistent formatting with the previous method. However I had other issues with other areas of the code that had no relation to the changing of downloading data. Issues started with a incompatible requirements folder for my system, as well as crashing of code. I have kept code integral to what it was using previously, however, the only necessary change that opposes this is a different tuning method, that I’m unsure if aligns with the previous approach. The status of the project is I have been able to run the LSTM model (not other models due to crashes). I also added a plotly plot to show the cumulative return over the test period for each asset.

LIST OF CHANGES

1. DATA

Download Quandl Data

* Changed all code to read csv data instead, however, keeping same output format. Line [0-34].

Pull Data

* Made a small change in the renaming from Date to Dates to align with given CSV file. Line [14].

2. EXAMPLES

Run Classical Strategies

* Changed the interval range due to the date range in csv file. Line [4].

Run DMN Experiment

* Changed default parameter values for training and testing boundaries. Line [154, 162, 170].

3. MOM TRANS

Backtest

* File names must end in .weight.h5. Line [517-520], prompt “what’s the error here and how do I fix it {error}”.

Classical Strategies

* Removed empirical imports of Sortino ratio and downside risk as they use outdated np.NINF. Used co-pilot to add custom downside risk and Sortino function. Line [19-37].

Data Prep

* Added to\_numeric line to ensure pandas data frame are read as numeric values and not strings. Line [76].
* Used co-pilot to fix week of year with isocalender. Line [122]. Prompt “I am having issues with {error}. Can you fix the issue and help me understand what is happening”.

Deep Momentum Network

* Updated Keras Random Search tuner import to match current version importing. Line [7].
* Changed np.NINF to np.inf as outdated. Line [72, 86].
* Removed self.\_reported\_step as too many arguments provided. Line [192].
* Added default value for self.\_reported\_step = 0 as was not previously assigned. Line [180].
* Changed callback model to early stopping. Line [201].
* Used co-pilot to fix updated model build calling. Line [206-209]. Prompt “I am having issues with {error}. I am using the latest version of Keras, can you update the model build call”.
* Removed all Multiprocessing arguments, Hence, had to remove all Worker arguments as they were not recognised.
* Adjusted Adam optimiser call to update from ‘lr’ to ‘learning\_rate’. Line [526].

Model Inputs

* Changed the train & test boundaries to 2024 & 2025 respectively. Line [75, 76].
* np.int no longer available in current version. Changed to int. Line [591].
* Trainvalid was being called before being assigned, so assigned a value to it. Line [179]. Prompt “I’m getting this error {error}. Can you assign it a value”.

4. SETTINGS

Default

* Changed the ticker list to match those in the csv file rather than in Quandl. However, I have not separated them based on asset class. Line [20-124].

Requirements

* Removed all requirements as incompatible with python software potentially. Many prompts trying to fix errors around this.

5. OTHERS

Other errors

* Environment Issues, potentially due to conflicting packages and different python software versions.