**Meeting attendees**

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**Meeting time**

12:00–12:30 pm 2023.6.13

**Meeting Agenda**

1. Discuss the summer plan
2. Review SHGS
3. Discuss how to generate trend plots and introduce functions in Utils

**Progress made in the past week.**

**Issues/Questions**

1. Timeline

Total number of weeks:  8

week1 (0611-0617)

week2 (0618-0624)

week3 (0625-0701)

week4( 0702-0708)

finish part a(trend plot of hyperparameter values to test\_auc)

week5 (0709-0715)

finish part b(time analysis) and part c(box plot)

week6 (0716-0722)

put all the information we want to show into the paper

week7 (0723-0729) - a symposium on July 26

polish and make the final changes; prepare for the symposium

week8 (0729-0804）- a final presentation

polish and make the final changes; prepare for the presentation

The effective time: week1 – week6

What should be in our paper:

1. **Trend plots of all hyperparameters**

8 hyperparameters (epochs/batch\_size/L1/L2/dropout\_rate/learning\_rate/momentum/decay)

3 datasets (10year/15year/5year?)

Total 24 figures

Each hyperparameter has 10 trend plots, each represents a background setting

1. **Time compare and analysis**

a table with all hyperparameters and their total running time based on three datasets

[Hyperparameter; number of models each background setting; total running time]

 trend plots related to the relationship between time and the value of hyperparameter, To find out whether there is a linear relationship between the value of the hyperparameter and the running time

8hyperparameter \* 3 datasets (24 figures each with 10 background setting)

1. **Use box plot to compare the results of mean\_test\_auc and test\_auc**

8 hyperparameters \* 3 datasets (24 figures each with 10 background setting)

Analysis: if the average values of test\_auc is much lower than mean\_test\_auc

If the variance of test\_auc is much bigger than mean\_test\_auc

=> overfitting

If both the values of train\_auc and test\_auc are small => underfitting….

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| dataset | Trend-plots of hyperparameter values to test\_auc | Time-table | Trend-plots of hyperparameter values to running time | Box plots of hyperparameter values to test\_auc and mean\_auc |
| 10-year\_dataset | done |  |  |  |
| 15-year\_dataset | part-done |  |  |  |
| 12-year\_dataset |  |  |  |  |

1. SHGS

Step1: Give the range and step of all relevant parameters

Step2: choose a hyperparameter to be the target hyperparameter

Step3: in our program, put the range of target hyperparameter to be in “g\_params”; and put the range of other hyperparameters to be in “r\_params”

Step4: for each experiment, we randomly select a value for each hyperparameter from “r\_params”, and the combination of all hyperparameter values ​​constitutes a backgournd setting.

Step5: put the background setting and the range of target hyperparameter into one “grid search”

1. Functions

utils/calculate\_running\_time\_version2.py

utils/plottrend.py

**Comments**

**Ongoing tasks that covers more than a week**

**Specific tasks for the coming two weeks**

1. Read the two papers published by lab members, which is current in our new repo.
2. Draw a flow chart about your understanding of SHGS (based on what I described today during the meeting), which you can show us the next meet, and so we can help you understand better.
3. Change the readme file of SHGS\_version2 to make it more clear
4. Generate the trend plot of ‘momentum’ based on 15year results.(If ‘momentum’ doesn’t finish before Friday, then ignore this task)

**Less urgent tasks**