

Y4 Project meeting 16 record (Semester 2 Week 6)

Date and time: 18/02/20, 11:10-12:35

Attended (via Skype) by: Guy, Harry and Hin

Discussed:

1. Discussion of neural network training from the previous week

- Harry figured out that you can get the decayed learning rate at the end training so that it can be inputted for the next leg of the training if recompiling is done so as to keep the decay schedule as consistent as possible and to minimize the effects of recompiling on the loss. Which Harry tried to minimize further by fitting a decay value to the decay schedule (see semester 2 week 6 detailed notes for further details).
- Normally Guy would suggest we restrict the final report what parts of our method has worked but as we're pushing the boundaries of training neural networks and that should be reflected in the final report.
- We need to be able to explain why making certain changes to the neural network setup, improved it.
- Guy says it's okay if Harry focusses more on the neural network side but still discusses the science of HBM stuff.

2. Discussion of HBM stuff

- 5 star pseudo cluster constructed from the grid gave very good results
- Guy has nodes/cores we can use on bluebear
- How you're allowed to use priors: if you set your prior and you do a run and the result looks wrong then you can set the prior up to exclude that result.
- We are having an issue where the HBM is sampling outside the prior given by a beta function which causes it to crash. Guy's suggested test: remove observational constraints, so we can see where the values HBM is sampling. If the values that are being sampled is wrong than the priors or neural network or something is wrong.

3. Details on Guy giving Hin and Harry co-authorship on his paper

- see semester 2 week 6 detailed notes for more details.

3. A note of somethings to mention in the final report

correlations between parameters shown in the corner plots from the HBMs. The grid of stellar models we've used is just one set of physics, which is okay on the scale of the year 4 project.

4. Brief talk about Hin's PhD interview at Exeter

- see semester 2 week 6 detailed notes for more details.

Post Meeting

For details of the discussion after the meeting between Harry and Guy which is mostly about the significance of batch size choices: see semester 2 week 6 detailed notes for more details.

Next meeting: 24/02/2020 (Mon) 14:00 in Guy's office

Recorded by: Harry