Y4 Project meeting 15 record (Semester 2 Week 5)

Date and time: 11/02/20, 20:10-21:05

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

Discussed:

1. Discussion of what we did that week

- e.g. attempted use of dropout, MSE+MAE, regularization, and solved issues with batch normalisation effecting HBMs. Gave up on the combination of MSE+MAE while training and determined dropout was pretty useless. We found l2, 1E-6 to be optimal regularization.

2. HBM usage

- a. Guy suggests we should try running a HBM where we only use dwarfs or sub-giants from the grid.
- b. discussion of checking that HBM is using GPU on google collab.
  - determined google collab cannot run HBM with GPU.
  - alternatives: Tensorflow probability (TFP) for HBM to guarantee GPU on collab. Go back to Guy training on his GPU

3. Further wisdom

- If you change the regularization you would expect the loss to bottom out at some point. When Guy trains NN he tracks MSE and MAE as well as the loss.

4. Luminosity error distribution issue discussion

- Possible problem with blackbody equation
- solution: use solar temperature of 5778k rather than temperature in the grid

5. Fall back suggestion

- If we can't train the NN with RGB just use a main sequence setup

To do:

Students:
look into if it would be straightforward to run HBM on TFP
Change median in the error plots to mean absolute error = done!
We should try putting a Gaussian fit on our error plots

Guy to do:

Next meeting: Next meeting: 18/02/2020 (Tues) 11:00 in Guy's office

Recorded by: Harry