Y4 Project meeting 14 record (Semester 2 Week 4)

Date and time: 04/02/20, 00:00-00:35

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

Discussed:
1. Isochrone RGB issues and other progress
2. L1 vs L2 regularization
- L2 penalises larger errors more severely whereas L1 penalises smaller errors more severely.
3. Suggestion to look into exactly how our errors are distributed
- Error of 5 kelvin is good.
4. MSE vs MAE, and how swapping between them when training can be beneficial
- MSE penalises really wrong things heavily and makes the distribution of the errors look Gaussian
- MAE is better at pulling in the well-behaved points to look pretty
- Guy starts with MSE then goes to MAE then back to MSE
5. Dropout vs regularization
- Dropout is the easiest way to make the functions less crazy
- Dropout by randomly dropping neurons means that the NN doesn't train just one instance of the neural net, it trains multiple instances, which we get the average of essentially an ensemble, where we don't have issues form random NN being turned on and off.
- It has been suggested that when using a dropout of x% you should increase the number of nodes per layer by x%.
- Don't put dropout on input layer
- Regularization instead reduces the neural network's expressiveness

To do:
Students:
Consider getting in touch with computer science people who can give guidance with neural networks e.g. Peter Tino

Guy to do:
Recommend other UoB computer science staff who could be helpful

Next meeting: TBC, over Skype

Recorded by: Harry