<u>Checkpoint Call -</u> Friday June 23rd: 09:00 - 10:00 (GMT+1)

Attendees

- Astrid van Toor
- Leigh Feaviour
- Panagiotis Koilakos

Notes

- The ANN seminar recording has been published and we've all watched it.
- Astrid has written and shared an initial ANN solution that we have all been editing the hyperparameters on during the week to try to improve the accuracy.
- We seem to be topping-out at around 50% accuracy with ANN but Nadeem had said in the seminar that approaching 90% was good. Having previously asked if we could use a CNN, since we knew it would give better results for image classification than ANN, and being told that ANN is mandatory, we agreed for Leigh to ask again because we cannot achieve the required accuracy using only ANN.
- Leigh has been running ANNs on WEKA to see if it will give any clues as to the optimum number of neurons. So far it's not looking promising because it requires image pre-processing through a filter so it won't be a like-for-like comparison, but it might still give an indication.
- Panos has written a script that runs the different hyperparameters in nested loops measuring the accuracy of each permutation, so we can find the optimum model. It's a brute-force approach, but in the absence of reliable "rules" it's better than random trial-and-error. Astrid helped with some fault-finding on the call to get the script running.
- Leigh has been experimenting with making the images grayscale. So far the results haven't improved, so we'll weep this on ice and will try it on the optimal colour model that we eventually find to see if it can be further improved with grayscale.
- Leigh also shared some graphs showing accuracy and loss over epochs, plus a confusion matrix, that could be used in the final presentation.

Actions

Leigh	Check again with Nadeem if the priority is only using ANN, or getting a good accuracy score (meaning we'd need to use a CNN as well)
All	Continue working on improving the ANN accuracy

* Note: after the call Nadeem confirmed that if we cannot get good enough results with ANN, we can use CNN to compare how accuracy improves. So additional action is to look at CNN in parallel to ANN.