

Group 16G25 Lab Project

Internal Meeting Notes

Attendance: Scott Hazelhurst, Paul Cresswell, James Allingham

Minutes noted by: Paul Cresswell

27 June 2016

1 Project Scope

This meeting primarily discussed the feasibility and scope of the project such that it can be a success.

- James brought up the possibility of attempting to use deep neural networks (NN) to detect epistasis in genes, as most research uses more shallow NN.
- It is made aware that only 8 weeks are available for this project, and so creating a plugin for PLINK may be a far reach.

2 Understanding how to link the neural network with identifying epistasis

- Scott explained that the data used can be based off the PLINK for genome data analysis. This can be used to create both synthetic and real data. It is clear that some input-management will be required to read the data in correctly
- James brings up the possibility of using a recursive NN which could ease the computation time.

3 Coding the Neural Network

- Tensorflow, a package implemented using python and c++, is brought up as a possible framework to build the neural network.
- If the neural network is coded in R, it is possible that a plugin for PLINK could be created, but this may not be viable due to time constraints.