GosuNet

Gamestate evaluation and prediction

Why do we need this?

- First step towards gamestate evaluation used for AIs

- Evaluating game (drama in predictions)

- Dynamic difficulty adaptation

- Learning more about the game to improve strategies
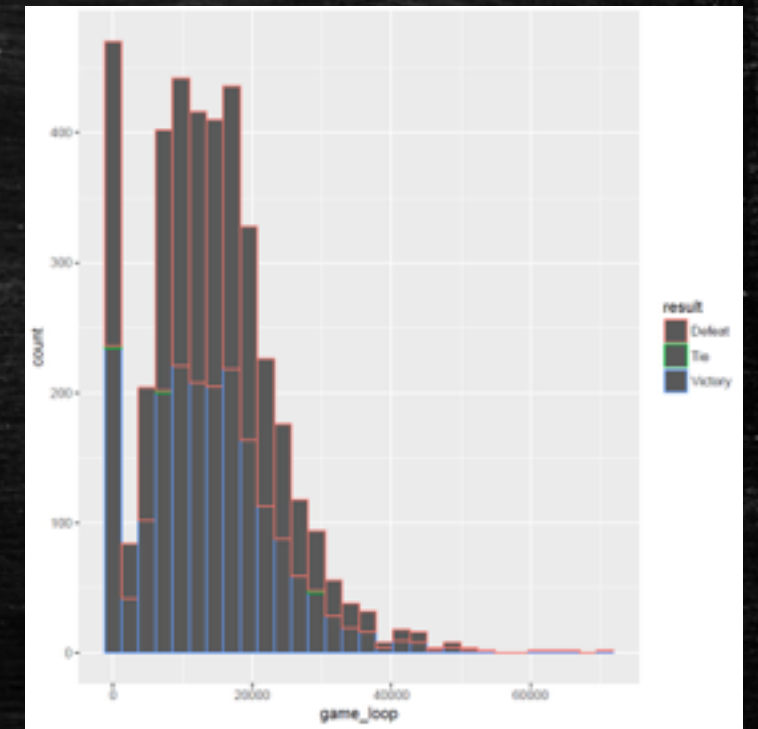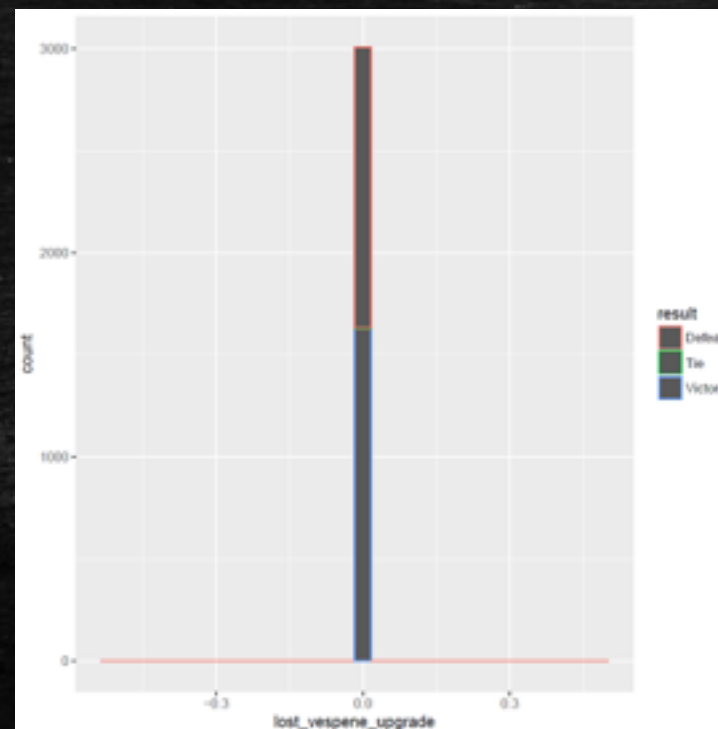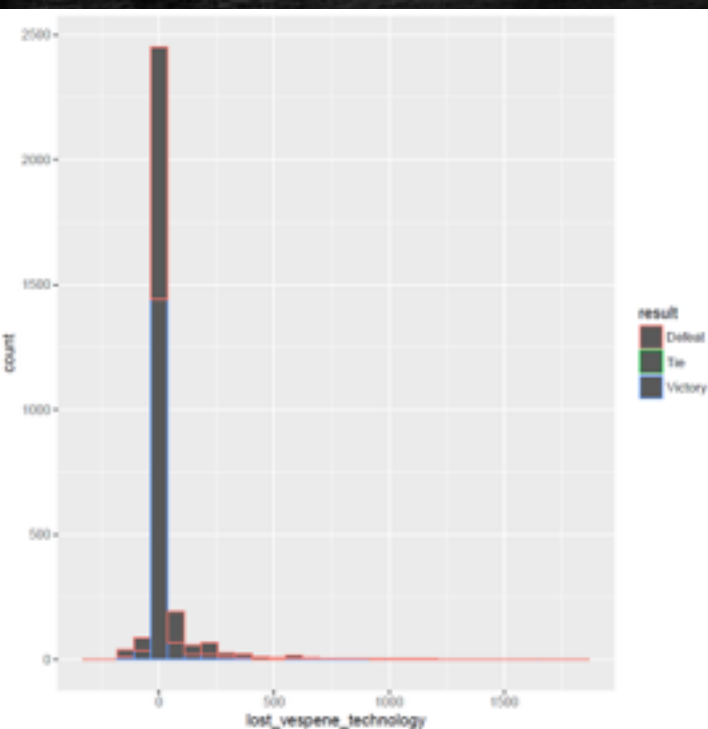
- Betting on outcomes

Replays and their data

- Running human replays with PySC2

- Gamestate data for each tick in the game

- 99 different features for each gamestate

- Timeline data & Last tick

- Terran VS. Terran & Random sample

- Way too much data

Data preprocessing

- Removed noise

- Removed irrelevant features

- Data analysis feature selection & Expert feature selection

Predictive model selection

Decision Tree

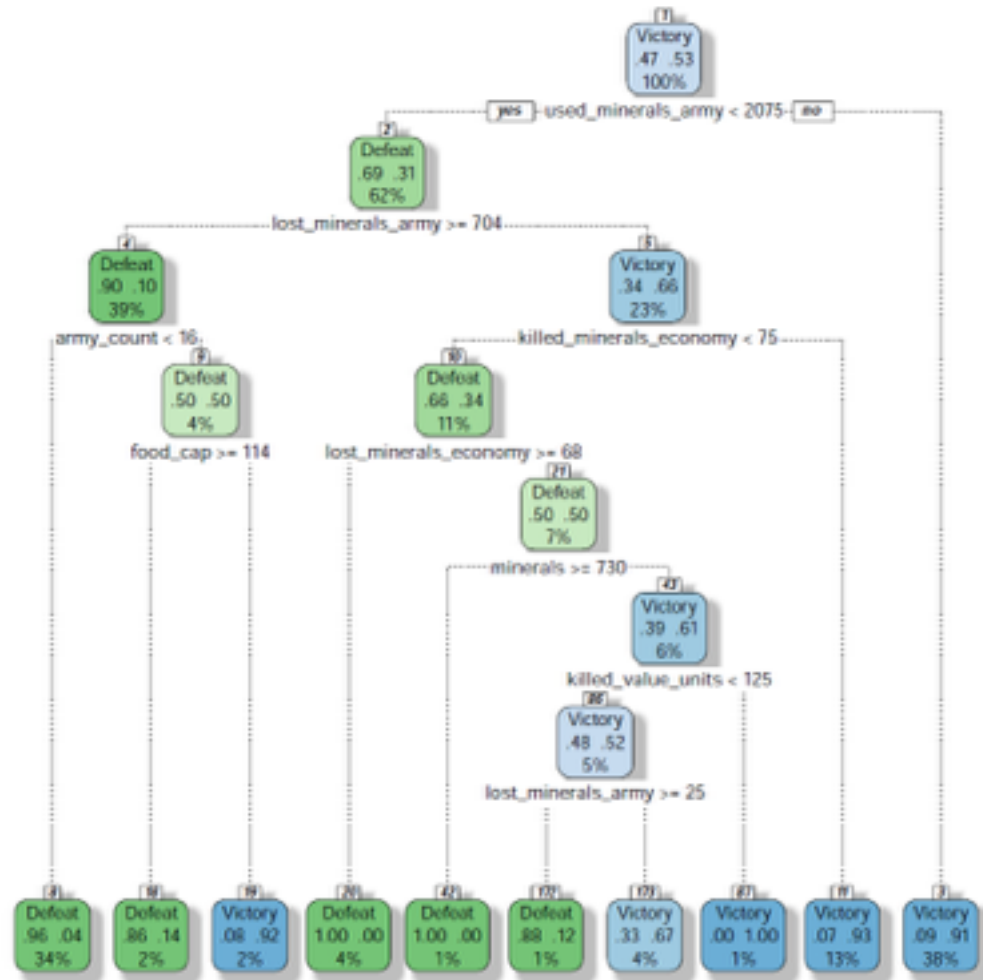- For visualization

- For interpretability

Neural Network

- For increased number of features

- For hidden correlations
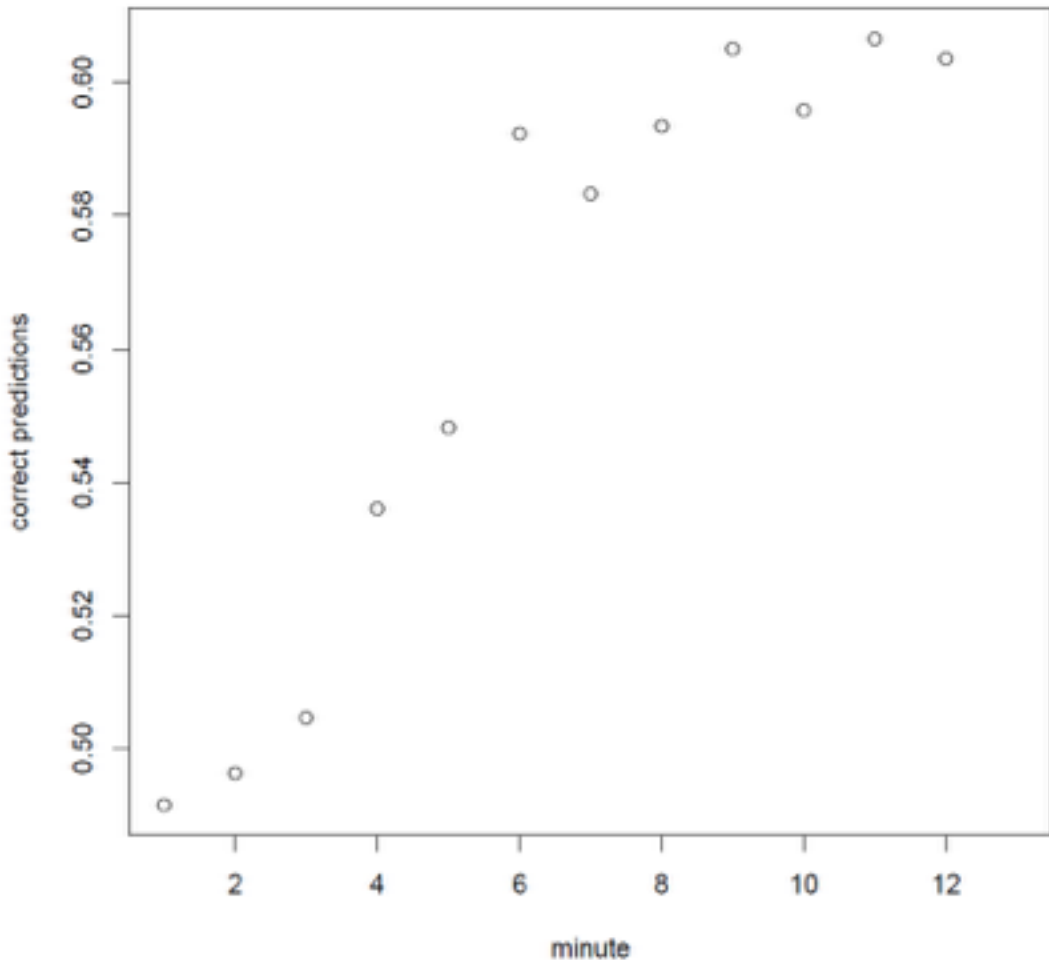
Random Forest

- Future work

Accuracy – Decision Tree

Rattle 2018-Jan-21 14:28:39 mpreu_02

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
0.8090	0.8396	0.8492	0.8487	0.8622	0.8727

Accuracy – Neural Network

Final Tick Predictions

Terran, Expert features: 0.8866109

Terran, All features: 0.8331939

All races, Expert features: 0.8738967

All races, All features: 0.8634272