

# Fantasy Golf Using a Data Driven Team Selection Algorithm

## Shane Rooney, Supervisor: Matthias Glowatz

### Practical Aim:

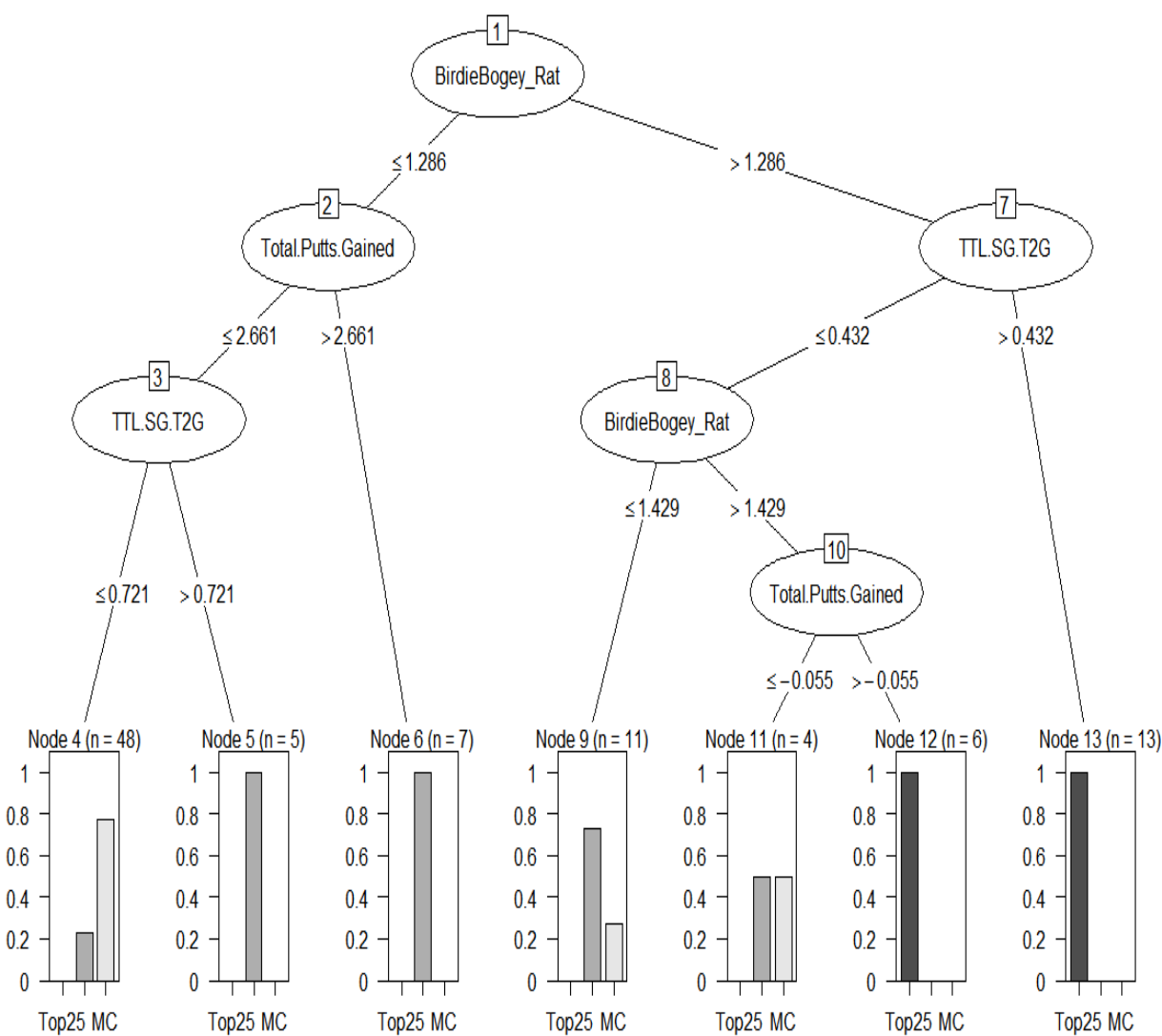
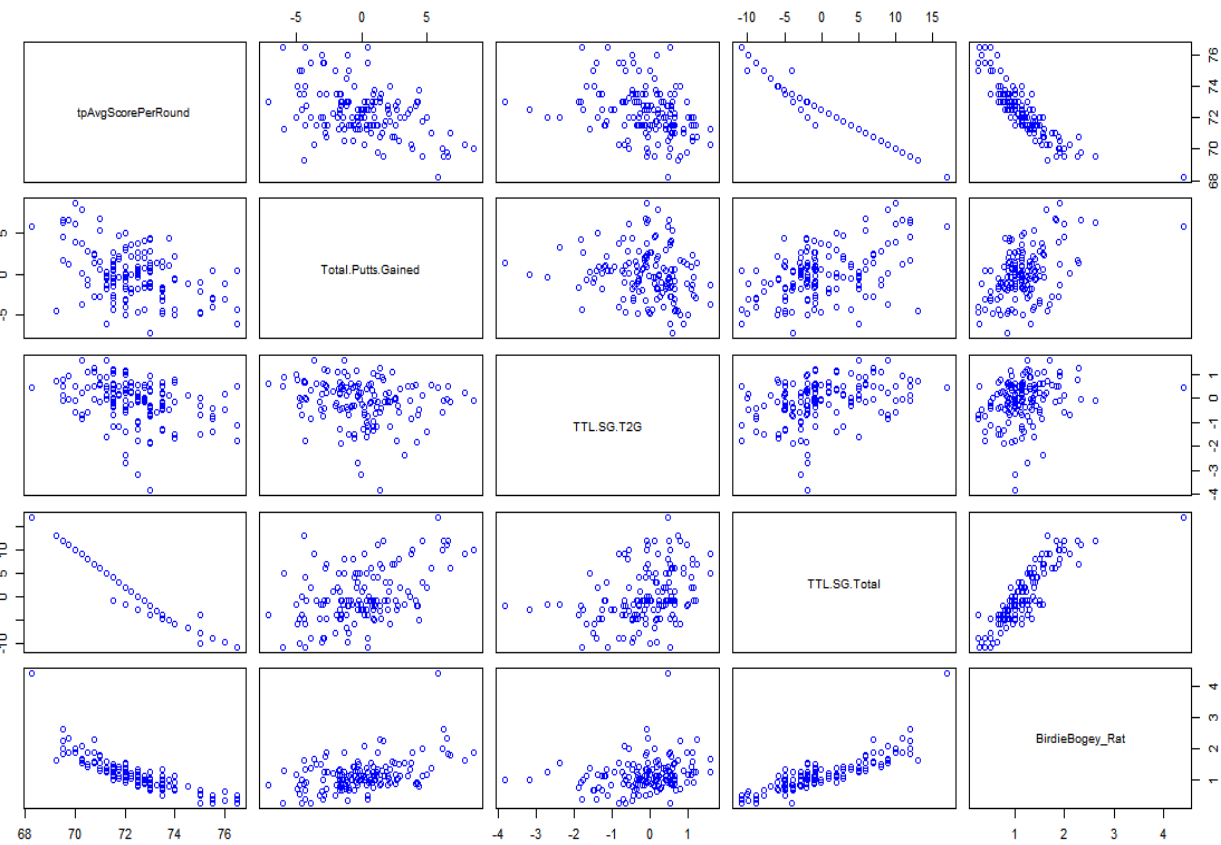
Automatically produce a fantasy golf team using a data driven algorithm. The data driving the algorithm is golfer form, which is deduced from YTD averages of golfer statistics

### Introduction

Fantasy golf is a rapidly growing industry with \$30 million in prize funds shared in 2015. Playing fantasy golf professionally is a feasible ambition if one is armed with the right data. This paper analyses golf data to find explanatory statistics and develop a form indicator. This form indicator is then used as input to an algorithm that selects a team of the most in-form golfers that fit into the defined budget.

### Data Exploration

Correlation and decision trees used to find best performing features



### Best Performing Features (YTD)

- Adjusted Average Score
  - Strokes Gained Tee-to-Green
  - Strokes Gained Putting
  - Birdie:Bogey (ratio)
  - Average Position
  - YTD Fantasy Points
  - Course History

### Form Indicator

Major Tournaments:

$$form(x) = SGT2G + SGPutt$$

Regular PGA events:

$$form(x) = \left[ \frac{AvgScore - BirdieBogey - SGT2G - SGPutt}{AvgPos} \right] + \omega_1 FGPoints + \omega_2 CourseHistory$$

### Results:

Binary Integer Programming used to maximise form while staying under budget.

Students t-tests illustrate significant evidence data driven team outperforms average human generated team (H<sub>0</sub>: means are equal)

Tournament	Sample Mean	95% C.I. for Mean	BIP Mean	p-value	Null Hypothesis
Open Championship	903	[783,1024]	1018	0.03128	Rejected
Canadian Open	374	[292,455]	854	2.2x10 <sup>-16</sup>	Rejected
PGA Championship	775	[671,880]	1453	2.2x10 <sup>-16</sup>	Rejected

### Conclusions:

The form indicators deduced are good indicators of past success and future performance. There is significant statistical evidence to suggest that the form indicators discovered can be used in conjunction with binary integer programming to succeed at fantasy golf.