# Data Analytics Boot Camp: Project 1 Australian Football League (AFL) Statistical Analysis

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**Project Aim :** Answer some questions about the sport of AFL. The team members are keen followers of the sport and want to answer some frequently asked questions. This is the motivation for doing this study.

**Data Sources :** website https://afltables.com/afl/afl\_index.html

**Questions asked are:**

1. Do more Brownlow votes go to players on home teams or away teams?
2. Do home teams get more free kicks than their visiting opponents?
3. How do teams perform in front of their home fans? Better or worse?

**Data exploration, clean-up, and analysis process:**

Data was scraped off the above website and placed into a text editor (GVIM) and converted to a comma separated file (csv) which could be read by pandas and python. A lot of the initial clean-up was done prior to reading into Juypter notebooks to select the data required for the analysis process. Once the data was read into a Pandas data frame from the csv files several techniques and commands were used to organise the data in preparation for visualisation in the way of graphs and plots using matplotlib.

**Conclusions:**

1. Brownlow votes do tend to go to more to players from home teams rather than away teams. This can be attributed to the fact that home teams win more when playing at their home venue in front of a bigger supporter base. Hence, they play better than away teams (see question 3)
2. Home teams do tend to get more free kicks than visiting teams. This may be attributed to home teams are less likely to give away free kicks in front of their supporters and hence draw their ire. Are umpires swayed by the crowd’s cheers and jeers? That question cannot be answered from the data
3. There is clearly a trend that teams playing AWAY lose more games than when they play at HOME in front of more of their fans.

There are some exceptions for example Brisbane Bears, they were a new team established in NRL territory, so they had fewer fans attending their home games but when they became the Brisbane Lions after merging with the established Melbourne club Fitzroy, they gained a lot more fans and their win/loss record went the other way.

However, some of the established Melbourne based clubs like Collingwood and Carlton went against trend as a lot of their away games were played at their home ground like the MCG which they share with other Melbourne clubs. A good attendance by supporters at games does seem to impact the outcome.

All this means is that playing at home in front of your supporters tend to bring out the best in individuals and in teams.