

# Basic Models: Team-Level

```
library(readxl)
setwd("/Users/austinsechrest/Documents/GitHub/LISH-AFL-Project/Datasets")
afl <- read_excel("afl_with_injuries.xlsx")

## New names:
## * `` -> ...1

afl$Home.Injuries.5 <- as.numeric(afl$Home.Injuries.5)

## Warning: NAs introduced by coercion

afl$Home.Injuries.10 <- as.numeric(afl$Home.Injuries.10)

## Warning: NAs introduced by coercion

afl$Home.Injuries.25 <- as.numeric(afl$Home.Injuries.25)

## Warning: NAs introduced by coercion

afl$Home.Injuries.50 <- as.numeric(afl$Home.Injuries.50)

## Warning: NAs introduced by coercion

afl$Home.Injuries.Total <- as.numeric(afl$Home.Injuries.Total)

## Warning: NAs introduced by coercion

fit <- lm(Attendance ~ Home.Venue.Average + Day + Away + Favorite.Odds + Time + Home.Injuries.Total, data = afl)
summary(fit)

##
## Call:
## lm(formula = Attendance ~ Home.Venue.Average + Day + Away + Favorite.Odds +
##     Time + Home.Injuries.Total, data = afl)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -34610  -4290   -221    3816   30797
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -3.818e+03  1.912e+03  -1.997  0.046034 *
## Home.Venue.Average    8.715e-01  1.575e-02  55.349 < 2e-16 ***
## DayMon           1.326e+04  1.951e+03   6.798 1.62e-11 ***
## DaySat          -2.928e+03  7.378e+02  -3.968 7.64e-05 ***
## DaySun          -4.608e+03  8.265e+02  -5.575 3.01e-08 ***
## DayThu          -3.339e+03  1.471e+03  -2.271 0.023330 *
## DayTue           2.678e+04  5.336e+03   5.019 5.92e-07 ***
## DayWed           2.302e+04  5.400e+03   4.262 2.17e-05 ***
## AwayBrisbane Lions    2.443e+02  1.260e+03   0.194 0.846292
## AwayCarlton          5.920e+03  1.243e+03   4.763 2.13e-06 ***
## AwayCollingwood      1.113e+04  1.266e+03   8.787 < 2e-16 ***
## AwayEssendon         9.356e+03  1.255e+03   7.457 1.62e-13 ***
## AwayFremantle       -1.026e+03  1.233e+03  -0.832 0.405511
## AwayGeelong          5.212e+03  1.253e+03   4.160 3.39e-05 ***
```

```

## AwayGold Coast          -1.456e+03  1.231e+03  -1.182  0.237323
## AwayGreater Western Sydney -2.782e+03  1.235e+03  -2.252  0.024474 *
## AwayHawthorn            7.161e+03  1.243e+03   5.761  1.04e-08 ***
## AwayMelbourne           7.846e+02  1.236e+03   0.635  0.525813
## AwayNorth Melbourne     1.987e+03  1.226e+03   1.621  0.105219
## AwayPort Adelaide       -1.427e+03  1.237e+03  -1.154  0.248657
## AwayRichmond            7.138e+03  1.241e+03   5.750  1.11e-08 ***
## AwaySt Kilda            3.750e+03  1.233e+03   3.041  0.002407 **
## AwaySydney              4.112e+03  1.236e+03   3.326  0.000905 ***
## AwayWest Coast          4.565e+02  1.234e+03   0.370  0.711565
## AwayWestern Bulldogs    2.096e+03  1.236e+03   1.695  0.090310 .
## Favorite.Odds           6.873e+03  8.922e+02   7.704  2.62e-14 ***
## Time                    1.821e+01  9.943e+01   0.183  0.854748
## Home.Injuries.Total     -8.999e+02  1.403e+02  -6.417  1.95e-10 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 7448 on 1294 degrees of freedom
## (63 observations deleted due to missingness)
## Multiple R-squared:  0.7945, Adjusted R-squared:  0.7902
## F-statistic: 185.3 on 27 and 1294 DF, p-value: < 2.2e-16
alias(fit)

## Model :
## Attendance ~ Home.Venue.Average + Day + Away + Favorite.Odds +
## Time + Home.Injuries.Total

```