# Best student papers: Computing & graphics

https://github.com/hadley/15-student-papers

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**RStudio**

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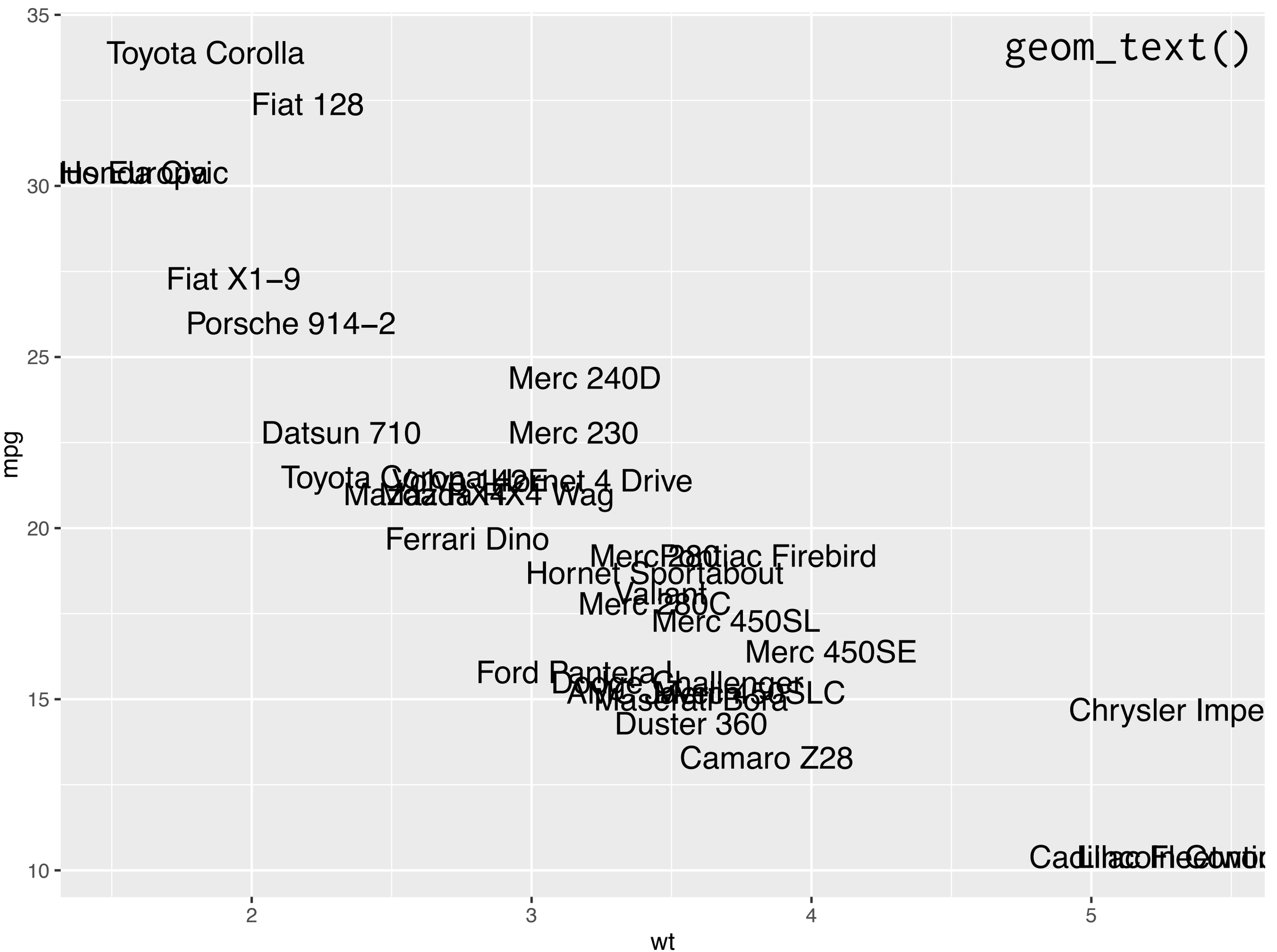
# PhyViz: Phylogenetic Visualization of Genealogical Information in R

- **Bad news**: ggplot2 has changed so ggenealogy will be totally broken in the next version

- **Good news**: there's an official extension mechanism


geom_text()
Toyota Corolla
Fiat 128
Honda Civic
Fiat X1–9
Porsche 914–2
Merc 240D
Datsun 710
Merc 230
Toyota Corona
Hornet 4 Drive
Mazda RX4
Mazda RX4 Wag
Ferrari Dino
Pontiac Firebird
Hornet Sportabout
Valiant
Merc 280C
Merc 450SL
Merc 450SE
Dodge Challenger
AMC Javelin
Maserati Bora
Merc 450SLC
Duster 360
Camaro Z28
Chrysler Imperial
Cadillac Fleetwood
Lincoln Continental
35
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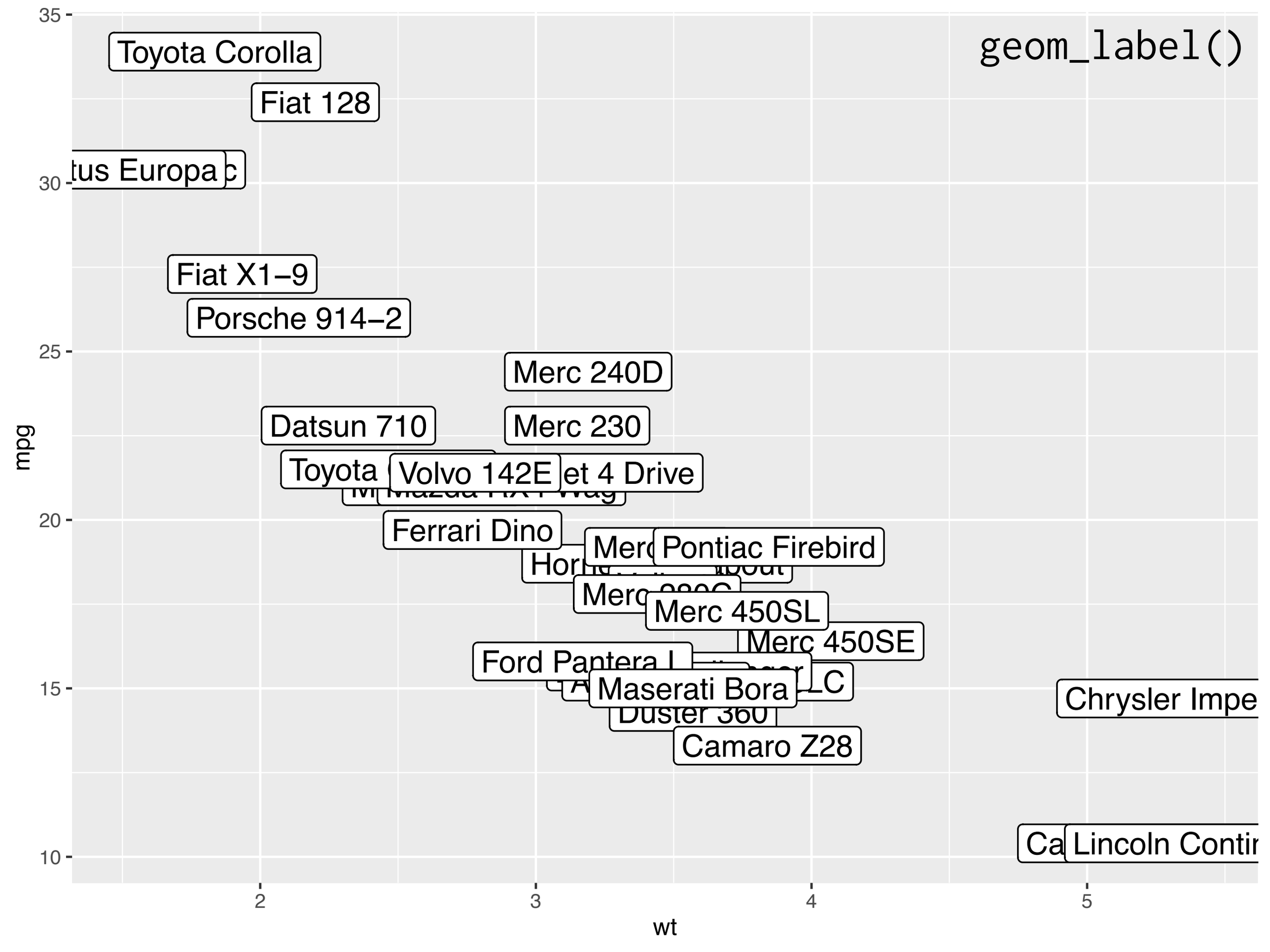
mpg
wt


geom_label()
Toyota Corolla
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Fiat X1–9
Porsche 914–2
Merc 240D
Datsun 710
Merc 230
Toyota
Volvo 142E
et 4 Drive
Ferrari Dino
Merc
Pontiac Firebird
Hor
bout
Merc
Merc 450SL
Merc 450SE
Ford Pantera L
A
Maserati Bora
LC
Duster 360
Camaro Z28
Chrysler Impe
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wt

# Efficient Penalty Search for Multiple Changepoint Detection in Big Data

# An R Package for the Analysis of Spatially Explicit Capture-Recapture Data

```
# During my PhD I did a mark-recapture consulting
# project. Package included this line of code:

compress_year <<- sapply(1:Y, function(year) {m <-
matrix(0, ncol=Y, nrow=K); m[,year] <- 1;m})
```

```
# But basic technique is still

exe <- system.file(
  paste("fitting/asmr", n, "t.exe", sep=""),
  package="asmrsim"
)
system(paste(exe, " -ind input.asmr", sep=""))

# Do we need RcppADMD?
```

# Introducing Statistics with IntRo

```
cat_and_eval <- function(mystr,
                         env = parent.frame()) {
  cat(mystr)
  eval(parse(text = mystr), envir = env)
}
```

```
cat_and_eval(paste0(
  "t.test(", "mtcars", "$", "cyl,
     conf.level = ", 0.05, ")"
))
```

```
interpolate <- function(code, ..., `_env` = parent.frame()) {
  stopifnot(inherits(code, "formula"), length(code) == 2)

  expr <- methods::substituteDirect(code[[2]], list(...))
  print(expr)
  message("------------------")
  eval(expr, `_env`)
}

interpolate(
  ~ t.test(df$var, conf.level = conf),
  df = quote(mtcars),
  var = quote(cyl),
  conf = 0.05
)
```

# Questions

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