



A  
RStudio  
addin

>>>

Master degree  
Mutatis mutandis.  
Custom project

*liftr*  
with custom (french) template

Nicolas Roelandt  
22 octobre 2017



COMPAGNY  
STREET  
CITY  
ZIPCODE  
COUNTRY  
PHONE NUMBER  
EMAIL

Inspired by Nan Xiao liftr package  
Please note that project is using RStudio software but is not a RStudio project



# Contents

Title . . . . .	1
Contents . . . . .	3
1 section . . . . .	4
1.1 subsection . . . . .	4
1.1.1 subsubsection . . . . .	4
2 Images and footnotes . . . . .	4
3 Code . . . . .	5
4 R code . . . . .	5
4.1 tibble . . . . .	5
4.2 ggplot2 . . . . .	6
4.3 purrr . . . . .	6
4.4 dplyr . . . . .	7
5 Session information . . . . .	9
List of Figures . . . . .	10
List of Tables . . . . .	12

pdf\_document customisation :

[http://rmarkdown.rstudio.com/pdf\\_document\\_format.html](http://rmarkdown.rstudio.com/pdf_document_format.html)

## 1 section

### 1.1 subsection

#### 1.1.1 subsubsection

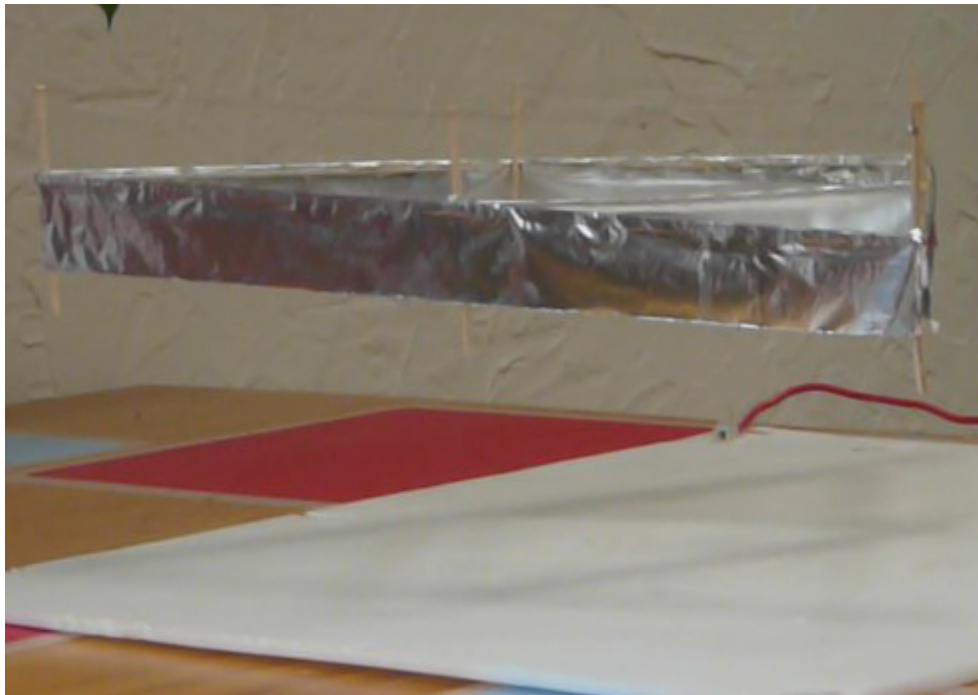
##### 1.1.1.1 paragraph

##### 1.1.1.1.1 subparagraph

subsubparagraph (What ? You wanted more?)

An ionocraft<sup>1</sup> or ion-propelled aircraft (commonly known as a lifter or hexalifter) is a device that uses an electrical electrohydrodynamic (EHD) phenomenon to produce thrust in the air without requiring any combustion or moving parts.

## 2 Images and footnotes



**FIGURE 1.** Flying Lifter v2<sup>2</sup>

---

1. <https://en.wikipedia.org/wiki/Ionocraft>

2. Anonymous59 CC-BY-SA Creative Commons <https://commons.wikimedia.org/wiki/File:FlyingLifterv2.png>

## 3 Code

```
import sys

print sys.version

## 2.7.13 (default, Jan 19 2017, 14:48:08)
## [GCC 6.3.0 20170118]
```

## 4 R code

### 4.1 tibble

The examples are from : <https://github.com/tidyverse/tibble>.

```
library("tibble")
as_tibble(iris)

## # A tibble: 150 x 5
##   Sepal.Length Sepal.Width Petal.Length Petal.Width Species
##   <dbl>         <dbl>         <dbl>         <dbl> <fctr>
## 1         5.1         3.5         1.4         0.2 setosa
## 2         4.9         3.0         1.4         0.2 setosa
## 3         4.7         3.2         1.3         0.2 setosa
## 4         4.6         3.1         1.5         0.2 setosa
## 5         5.0         3.6         1.4         0.2 setosa
## 6         5.4         3.9         1.7         0.4 setosa
## 7         4.6         3.4         1.4         0.3 setosa
## 8         5.0         3.4         1.5         0.2 setosa
## 9         4.4         2.9         1.4         0.2 setosa
## 10        4.9         3.1         1.5         0.1 setosa
## # ... with 140 more rows

tibble(x = 1:5, y = 1, z = x ^ 2 + y)
```

```
## # A tibble: 5 x 3
##       x     y     z
##   <int> <dbl> <dbl>
## 1     1     1     2
## 2     2     1     5
## 3     3     1    10
## 4     4     1    17
## 5     5     1    26
```

```
tibble(
  ~x, ~y, ~z,
  "a", 2, 3.6,
  "b", 1, 8.5)
```

```
## # A tibble: 2 x 3
##       x     y     z
##   <chr> <dbl> <dbl>
```

```
## 1    a    2    3.6
## 2    b    1    8.5
```

## 4.2 ggplot2

The example is from : <https://github.com/tidyverse/ggplot2>.

```
library("ggplot2")

ggplot(mpg, aes(displ, hwy, colour = class)) +
  geom_point()
```

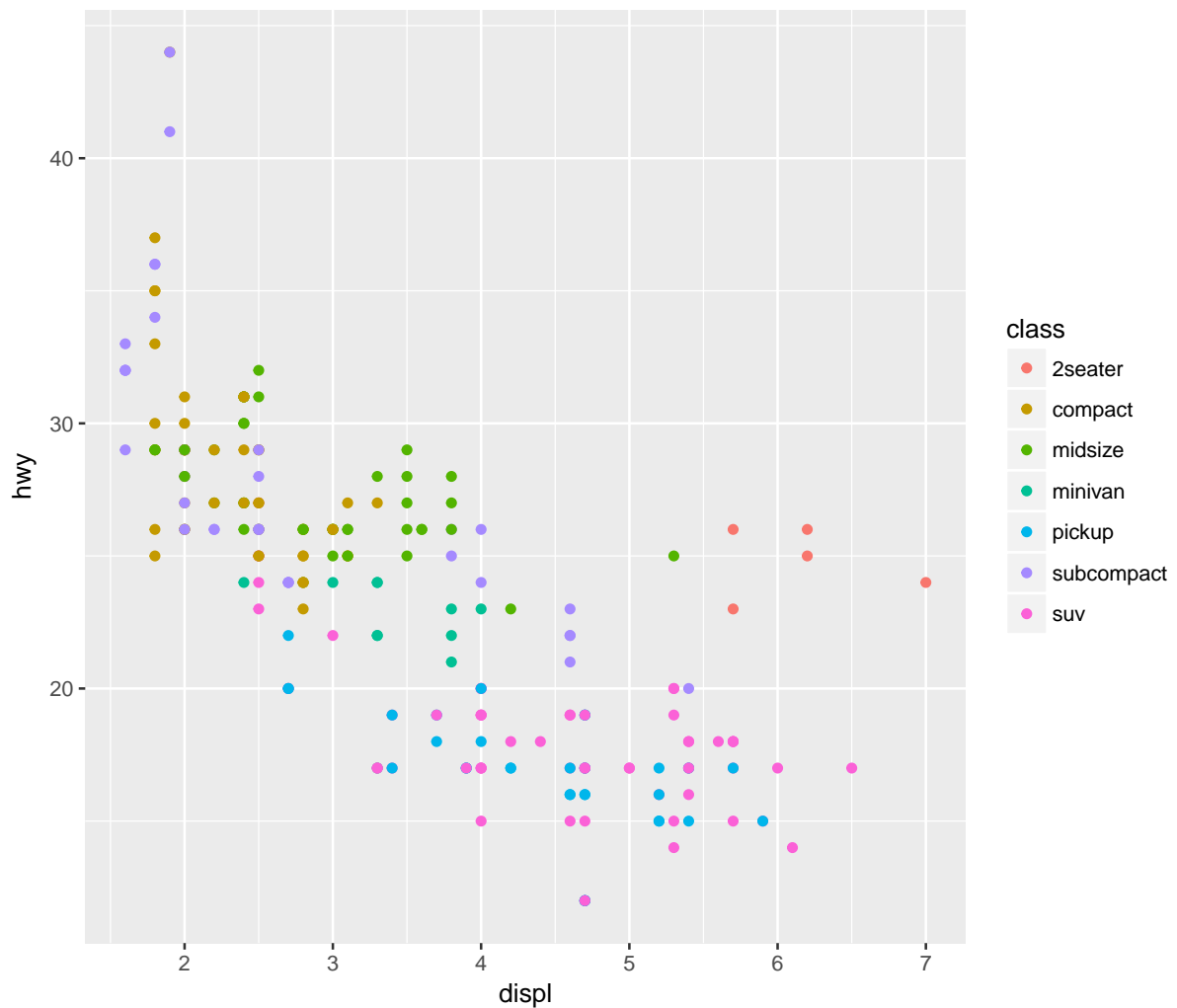


FIGURE 2. Engine displacement and fuel consumption

## 4.3 purrr

The example is from : <https://github.com/tidyverse/purrr>.

```
library("purrr")

mtcars %>%
```

```
split(.$cyl) %>% # from base R
map(~ lm(mpg ~ wt, data = .)) %>%
map(summary) %>%
map_dbl("r.squared")
```

```
##           4           6           8
## 0.5086326 0.4645102 0.4229655
```

## 4.4 dplyr

The examples are from : <https://cran.rstudio.com/web/packages/dplyr/vignettes/introduction.html>.

```
library("dplyr")
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

```
library("nycflights13")
```

```
filter(flights, month == 1, day == 1)
```

```
## # A tibble: 842 x 19
##   year month   day dep_time sched_dep_time dep_delay arr_time
##   <int> <int> <int>   <int>         <int>         <dbl>   <int>
## 1  2013     1     1     517           515           2     830
## 2  2013     1     1     533           529           4     850
## 3  2013     1     1     542           540           2     923
## 4  2013     1     1     544           545          -1    1004
## 5  2013     1     1     554           600          -6     812
## 6  2013     1     1     554           558          -4     740
## 7  2013     1     1     555           600          -5     913
## 8  2013     1     1     557           600          -3     709
## 9  2013     1     1     557           600          -3     838
## 10 2013     1     1     558           600          -2     753
## # ... with 832 more rows, and 12 more variables: sched_arr_time <int>,
## #   arr_delay <dbl>, carrier <chr>, flight <int>, tailnum <chr>,
## #   origin <chr>, dest <chr>, air_time <dbl>, distance <dbl>, hour <dbl>,
## #   minute <dbl>, time_hour <dtm>
```

```
slice(flights, 1:10)
```

```
## # A tibble: 10 x 19
##   year month   day dep_time sched_dep_time dep_delay arr_time
##   <int> <int> <int>   <int>         <int>         <dbl>   <int>
## 1  2013     1     1     517           515           2     830
## 2  2013     1     1     533           529           4     850
```

liftr  
with custom (french) template

```
## 3 2013 1 1 542 540 2 923
## 4 2013 1 1 544 545 -1 1004
## 5 2013 1 1 554 600 -6 812
## 6 2013 1 1 554 558 -4 740
## 7 2013 1 1 555 600 -5 913
## 8 2013 1 1 557 600 -3 709
## 9 2013 1 1 557 600 -3 838
## 10 2013 1 1 558 600 -2 753
## # ... with 12 more variables: sched_arr_time <int>, arr_delay <dbl>,
## #   carrier <chr>, flight <int>, tailnum <chr>, origin <chr>, dest <chr>,
## #   air_time <dbl>, distance <dbl>, hour <dbl>, minute <dbl>,
## #   time_hour <dtm>
```

```
arrange(flights, year, month, day)
```

```
## # A tibble: 336,776 x 19
##   year month   day dep_time sched_dep_time dep_delay arr_time
##   <int> <int> <int>   <int>         <int>         <dbl>   <int>
## 1 2013     1     1     517           515           2     830
## 2 2013     1     1     533           529           4     850
## 3 2013     1     1     542           540           2     923
## 4 2013     1     1     544           545          -1    1004
## 5 2013     1     1     554           600          -6     812
## 6 2013     1     1     554           558          -4     740
## 7 2013     1     1     555           600          -5     913
## 8 2013     1     1     557           600          -3     709
## 9 2013     1     1     557           600          -3     838
## 10 2013     1     1     558           600          -2     753
## # ... with 336,766 more rows, and 12 more variables: sched_arr_time <int>,
## #   arr_delay <dbl>, carrier <chr>, flight <int>, tailnum <chr>,
## #   origin <chr>, dest <chr>, air_time <dbl>, distance <dbl>, hour <dbl>,
## #   minute <dbl>, time_hour <dtm>
```

```
select(flights, year, month, day)
```

```
## # A tibble: 336,776 x 3
##   year month   day
##   <int> <int> <int>
## 1 2013     1     1
## 2 2013     1     1
## 3 2013     1     1
## 4 2013     1     1
## 5 2013     1     1
## 6 2013     1     1
## 7 2013     1     1
## 8 2013     1     1
## 9 2013     1     1
## 10 2013     1     1
## # ... with 336,766 more rows
```

```
mutate(flights,
  gain = arr_delay - dep_delay,
  speed = distance / air_time * 60)
```



```
## # A tibble: 336,776 x 21
##   year month   day dep_time sched_dep_time dep_delay arr_time
##   <int> <int> <int>   <int>         <int>         <dbl>   <int>
## 1  2013     1     1     517             515           2     830
## 2  2013     1     1     533             529           4     850
## 3  2013     1     1     542             540           2     923
## 4  2013     1     1     544             545          -1    1004
## 5  2013     1     1     554             600          -6     812
## 6  2013     1     1     554             558          -4     740
## 7  2013     1     1     555             600          -5     913
## 8  2013     1     1     557             600          -3     709
## 9  2013     1     1     557             600          -3     838
## 10 2013     1     1     558             600          -2     753
## # ... with 336,766 more rows, and 14 more variables: sched_arr_time <int>,
## #   arr_delay <dbl>, carrier <chr>, flight <int>, tailnum <chr>,
## #   origin <chr>, dest <chr>, air_time <dbl>, distance <dbl>, hour <dbl>,
## #   minute <dbl>, time_hour <dtm>, gain <dbl>, speed <dbl>
```

```
summarise(flights,
  delay = mean(dep_delay, na.rm = TRUE))
```

```
## # A tibble: 1 x 1
##   delay
##   <dbl>
## 1 12.63907
```

## 5 Session information

The R session information for compiling this document is shown below.

```
sessionInfo()
```

```
## R version 3.4.2 (2017-09-28)
## Platform: x86_64-pc-linux-gnu (64-bit)
## Running under: Debian GNU/Linux 9 (stretch)
##
## Matrix products: default
## BLAS/LAPACK: /usr/lib/libopenblas-r0.2.19.so
##
## locale:
##  [1] LC_CTYPE=en_US.UTF-8      LC_NUMERIC=C
##  [3] LC_TIME=en_US.UTF-8      LC_COLLATE=en_US.UTF-8
##  [5] LC_MONETARY=en_US.UTF-8  LC_MESSAGES=C
##  [7] LC_PAPER=en_US.UTF-8     LC_NAME=C
##  [9] LC_ADDRESS=C             LC_TELEPHONE=C
## [11] LC_MEASUREMENT=en_US.UTF-8 LC_IDENTIFICATION=C
##
## attached base packages:
## [1] methods      stats      graphics  grDevices  utils      datasets  base
##
## other attached packages:
## [1] bindrcpp_0.2      nycflights13_0.2.2 dplyr_0.7.4
```

```
## [4] purrr_0.2.4      ggplot2_2.2.1      tibble_1.3.4
## [7] shiny_1.0.5       rmarkdown_1.6       knitr_1.17
##
## loaded via a namespace (and not attached):
## [1] Rcpp_0.12.13      compiler_3.4.2      plyr_1.8.4          highr_0.6
## [5] bindr_0.1         tools_3.4.2         digest_0.6.12       evaluate_0.10.1
## [9] gtable_0.2.0      pkgconfig_2.0.1     rlang_0.1.2         yaml_2.1.14
## [13] stringr_1.2.0     rprojroot_1.2       grid_3.4.2          glue_1.1.1
## [17] R6_2.2.2          magrittr_1.5        backports_1.1.1     scales_0.5.0
## [21] htmltools_0.3.6   assertthat_0.2.0    mime_0.5            xtable_1.8-2
## [25] colorspace_1.3-2  httpuv_1.3.5        labeling_0.3         stringi_1.1.5
## [29] lazyeval_0.2.0    munsell_0.4.3
```

## List of Figures

1	Flying Lifter v2 . . . . .	4
2	Engine displacement and fuel consumption . . . . .	6

# List of Tables