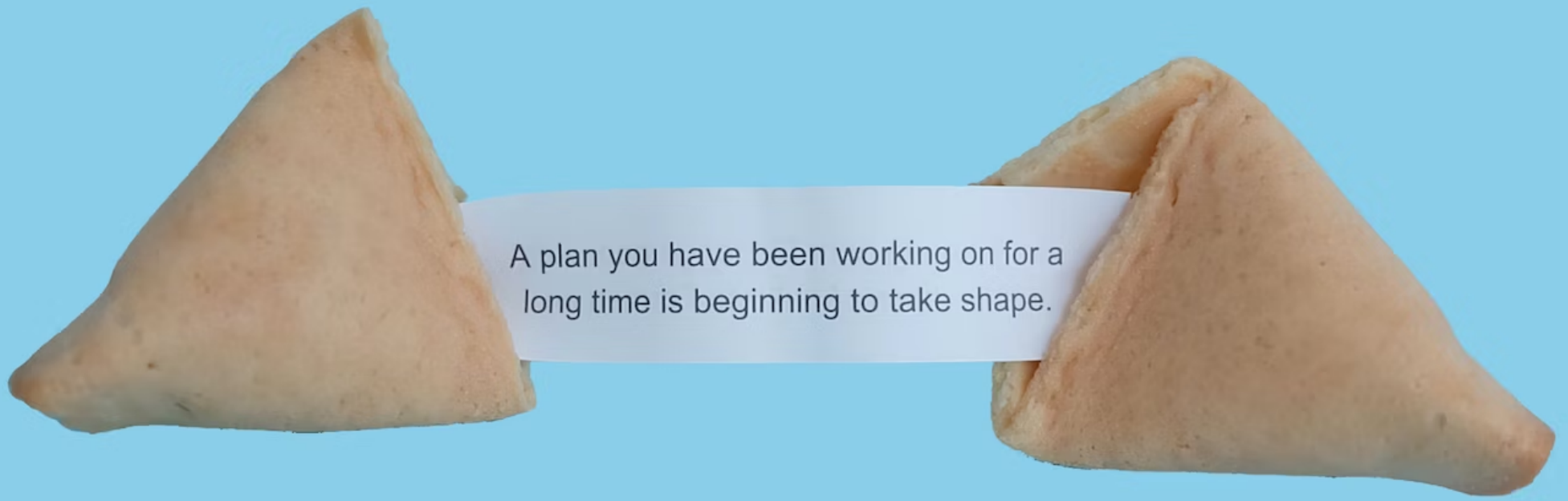
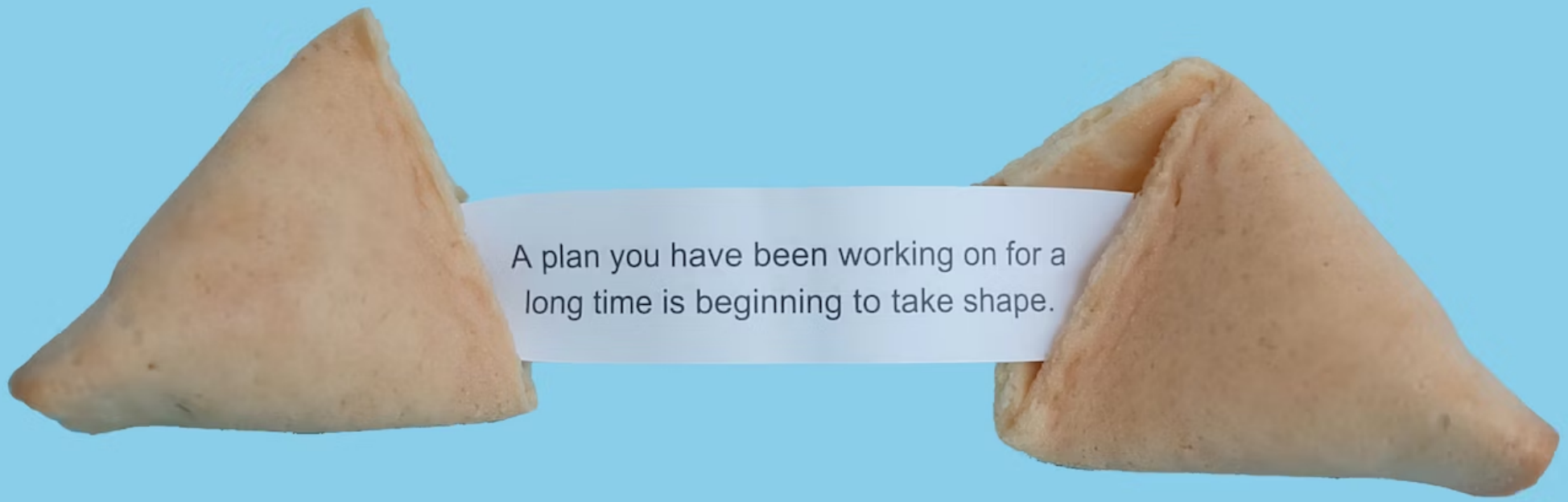
Prediction with {ggsmoothfit}



Prediction with {ggsmoothfit}

ggplot2's geom_smooth() shows prediction across a range of values.



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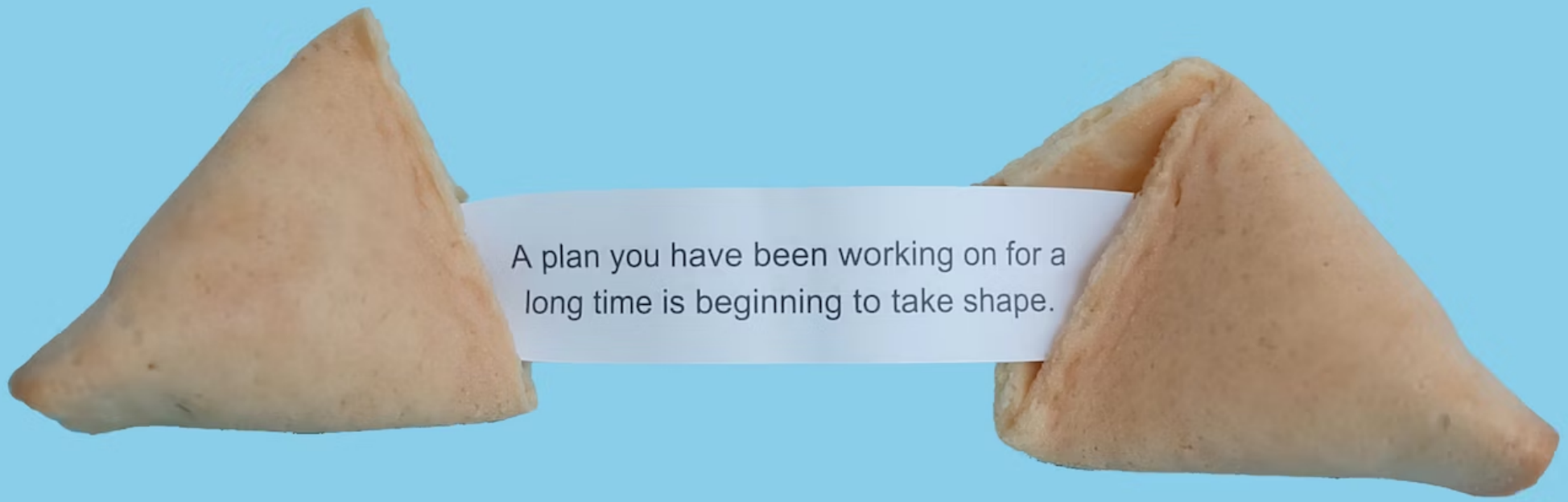
stat_smooth()'s xseq specifies positions at which to make predict.



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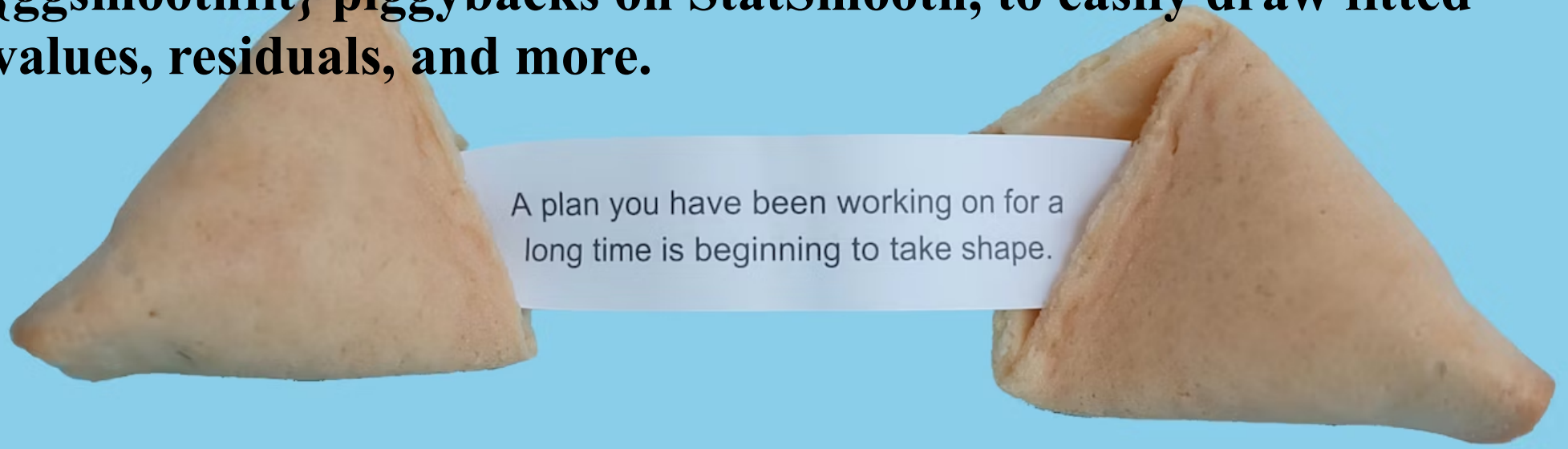
{ggsmoothfit} piggybacks on StatSmooth, to easily draw fitted values, residuals, and more.



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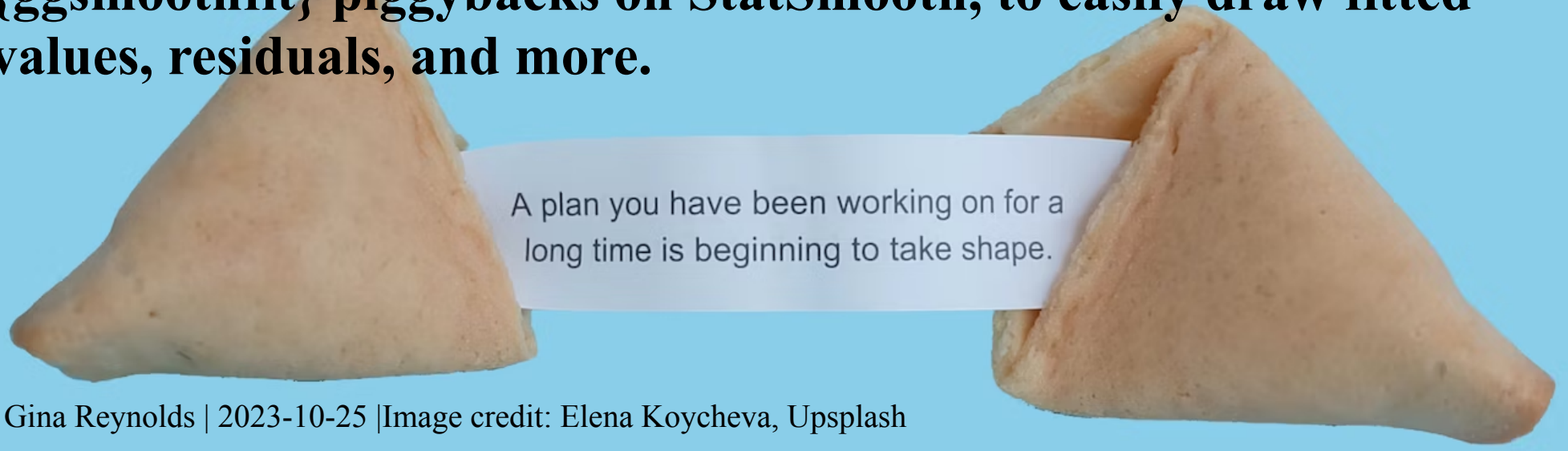
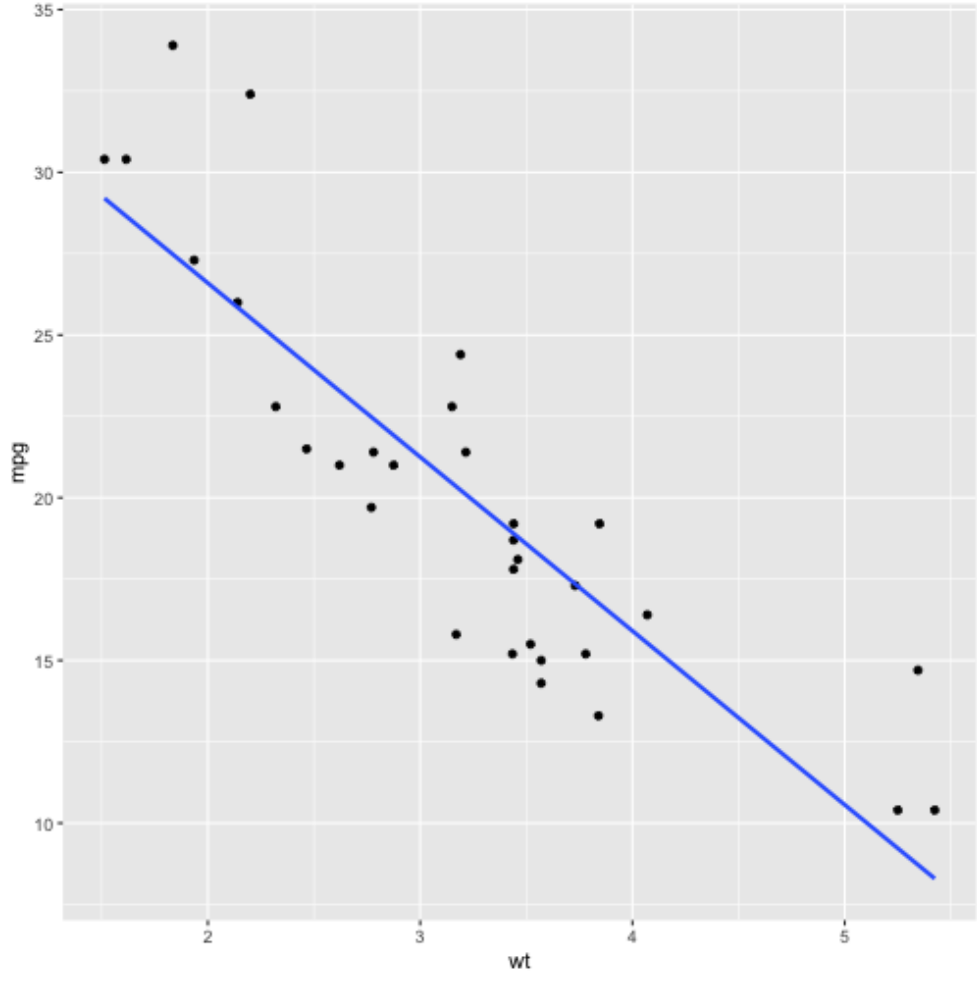


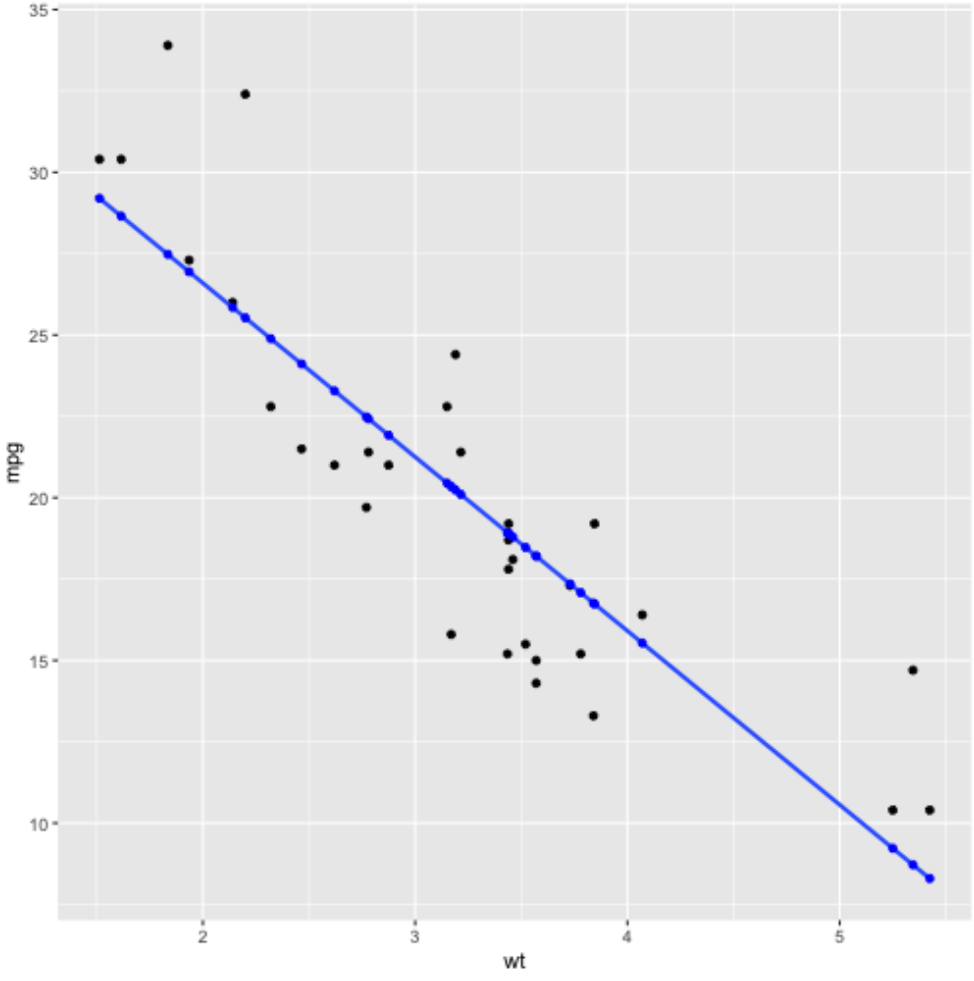
| Gina Reynolds | 2023-10-25 |Image credit: Elena Koycheva, Upsplash

```
library(tidyverse)
mtcars %>%
  ggplot() +
  aes(wt, mpg) +
  geom_point() +
  geom_smooth(se = F, method = lm) ->
a_ggplot2_plot
```

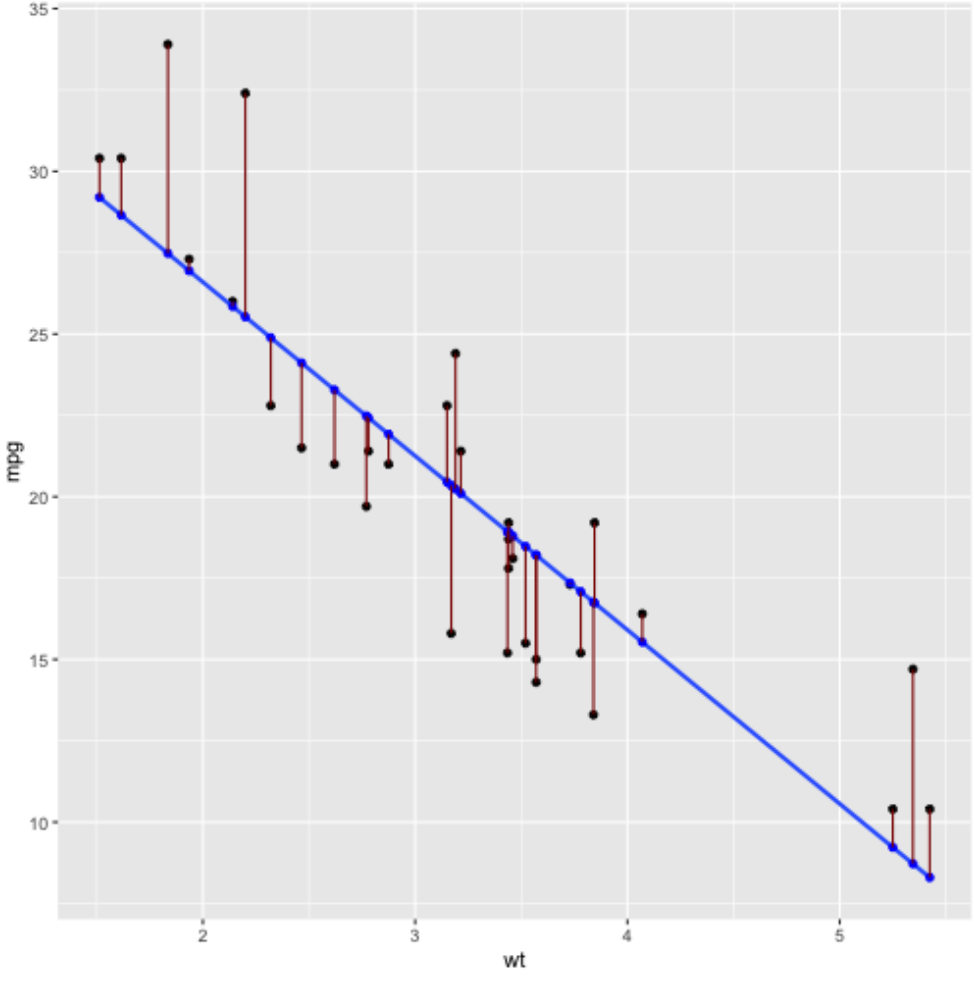
```
a_ggplot2_plot
```



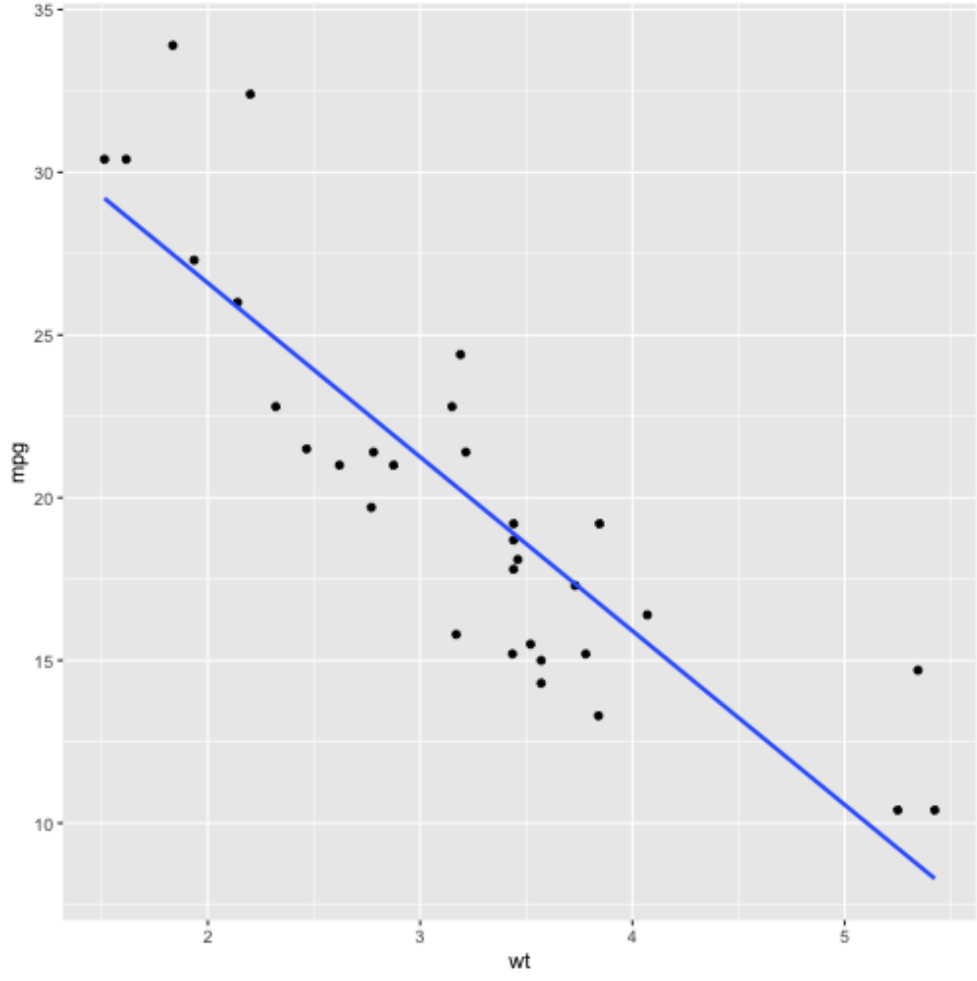
```
a_ggplot2_plot +
  ggsmoothfit:::geom_fit(method = lm)
```



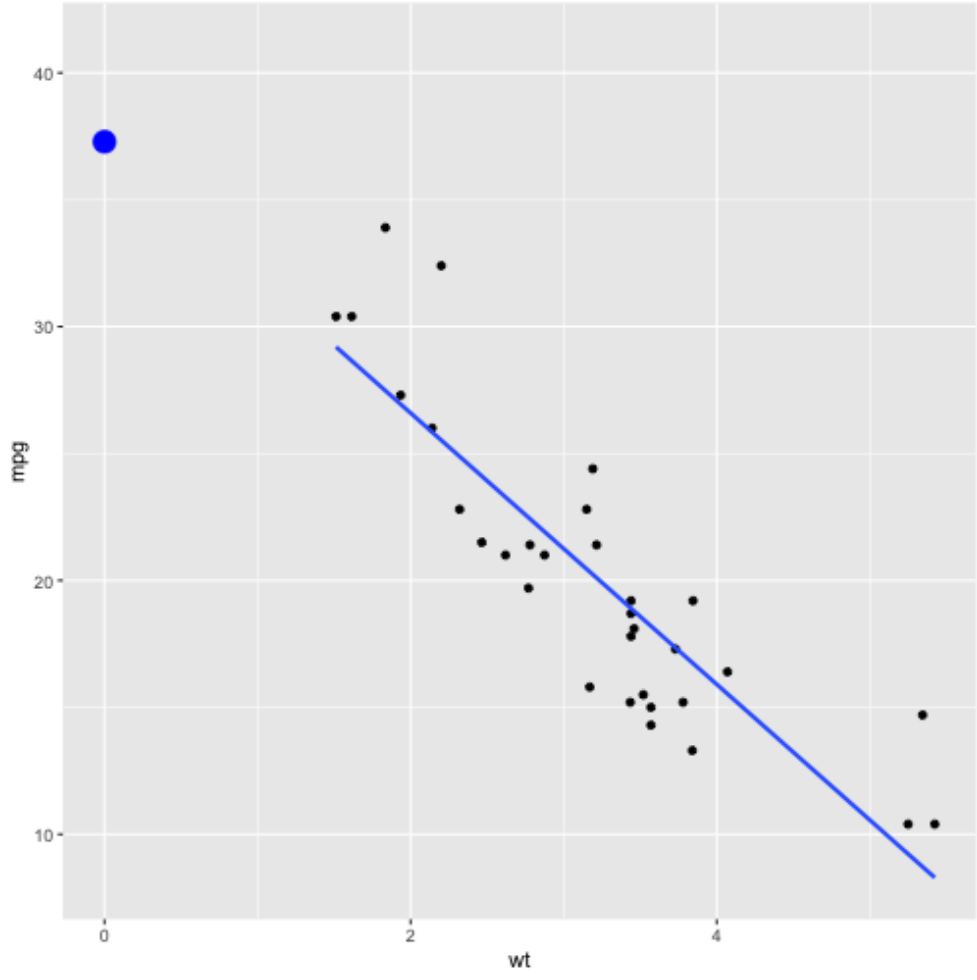
```
a_ggplot2_plot +
  ggsmoothfit:::geom_fit(method = lm) +
  ggsmoothfit:::geom_residuals(method = lm)
```



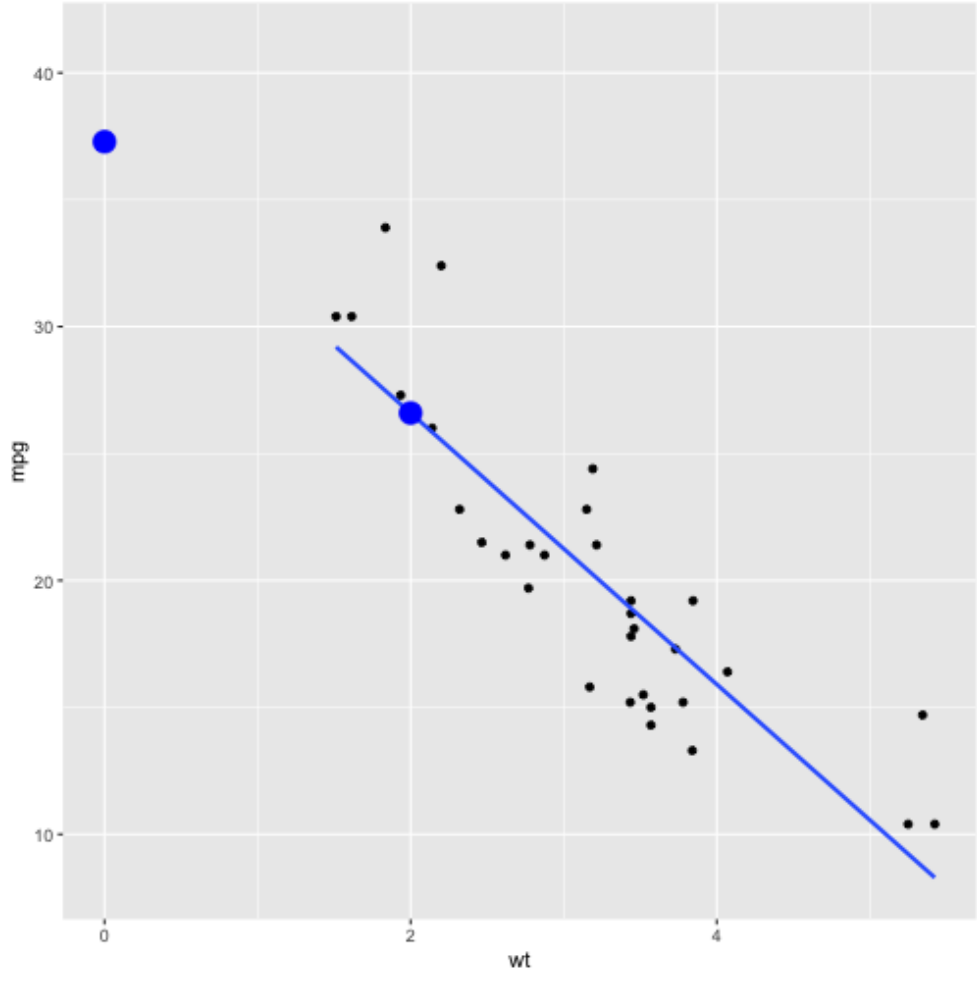
```
a_ggplot2_plot
```



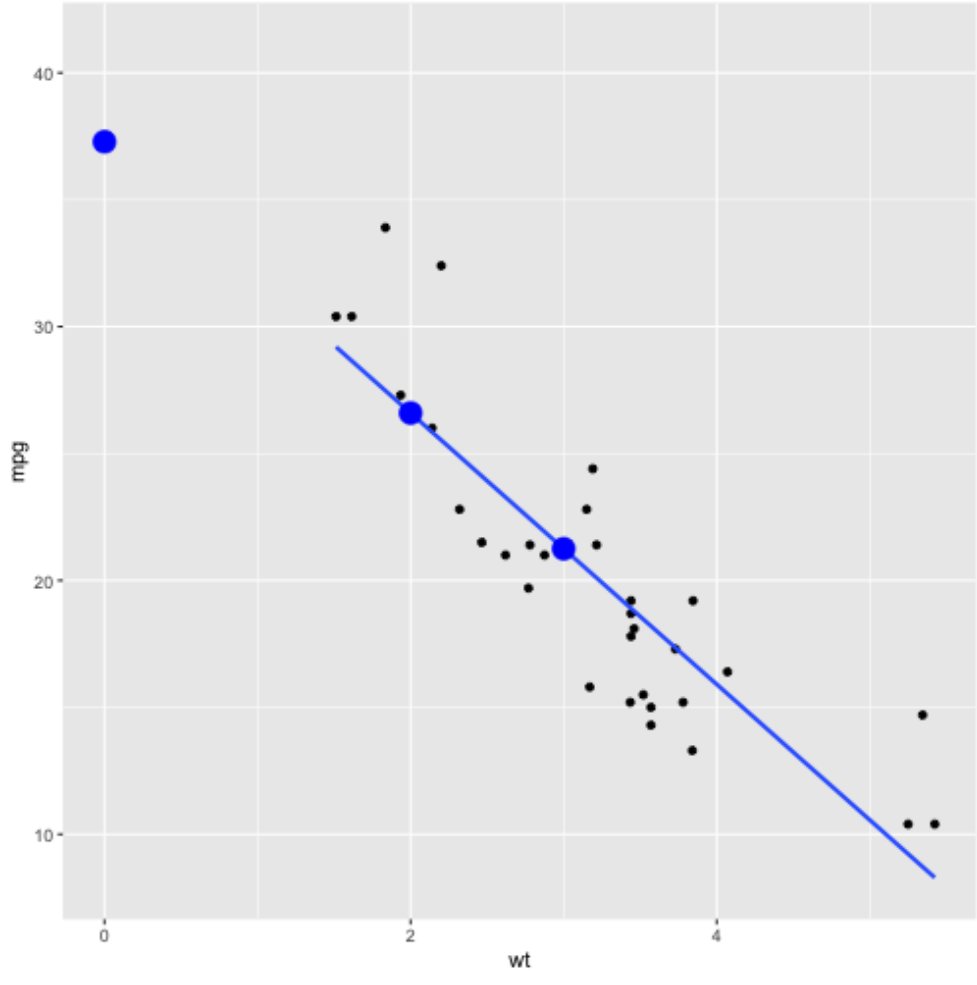
```
a_ggplot2_plot +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 0, method = lm, size = 5)
```



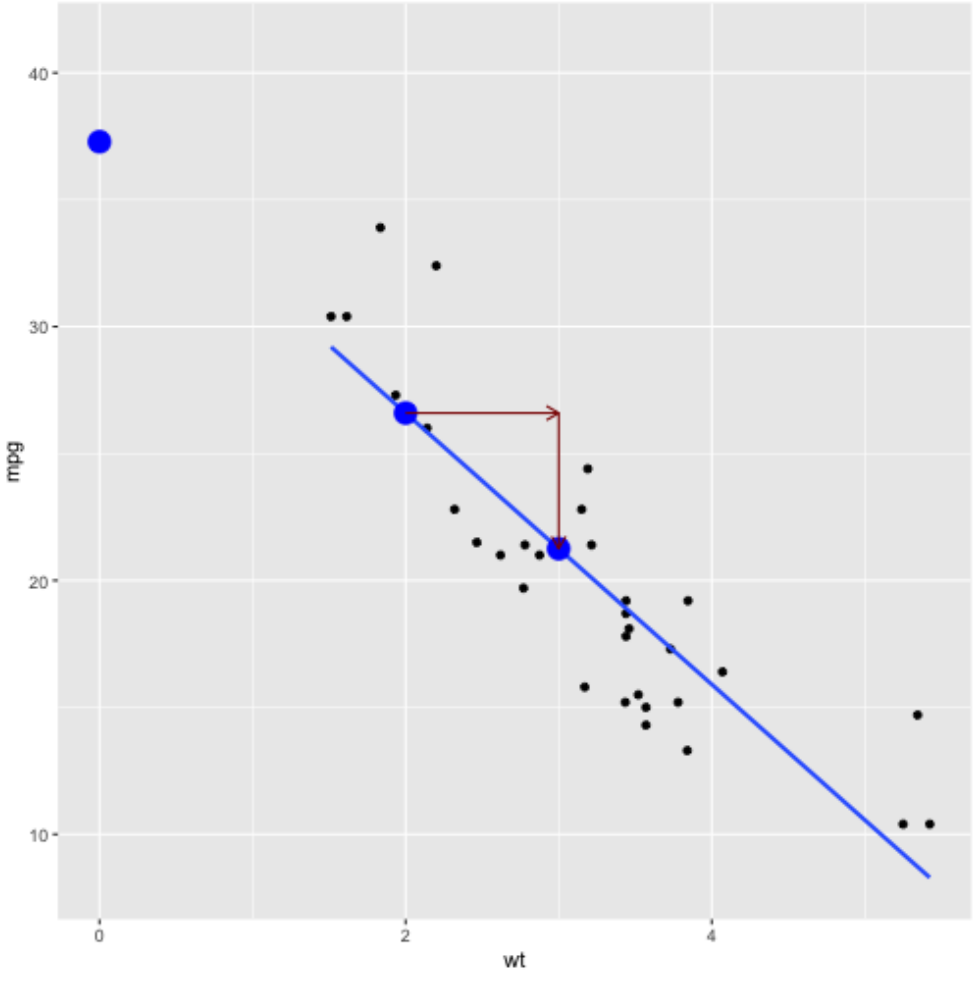
```
a_ggplot2_plot +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 0, method = lm, size = 5) +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 2, method = lm, size = 5)
```



```
a_ggplot2_plot +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 0, method = lm, size = 5) +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 2, method = lm, size = 5) +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 3, method = lm, size = 5)
```



```
a_ggplot2_plot +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 0, method = lm, size = 5) +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 2, method = lm, size = 5) +
  ggsmoothfit:::geom_smooth_predict(
    xseq = 3, method = lm, size = 5) +
  ggsmoothfit:::geom_smooth_step(
    xseq = 2:3, method = lm)
```



Contribute

- https://github.com/EvaMaeRey/ggsmoothfit

Check out stat_smooth() which does the computation in ggsmoothfit

- https://ggplot2.tidyverse.org/reference/geom_smooth.html
- examples with xseq, https://evamaerey.github.io/featurette/2023-10-30-stat-smooth-mtcars/stat-smooth-mtcars.html#10
- xseq documentation discussion https://github.com/tidyverse/ggplot2/issues/5246

Check out flipbookr, used to build this featurette

- https://github.com/EvaMaeRey/flipbookr
- discussion: https://github.com/EvaMaeRey/flipbookr/blob/master/docs/draft_jasa_submission.pdf

Check out more featurettes

- https://EvaMaeRey.github.io/featurette