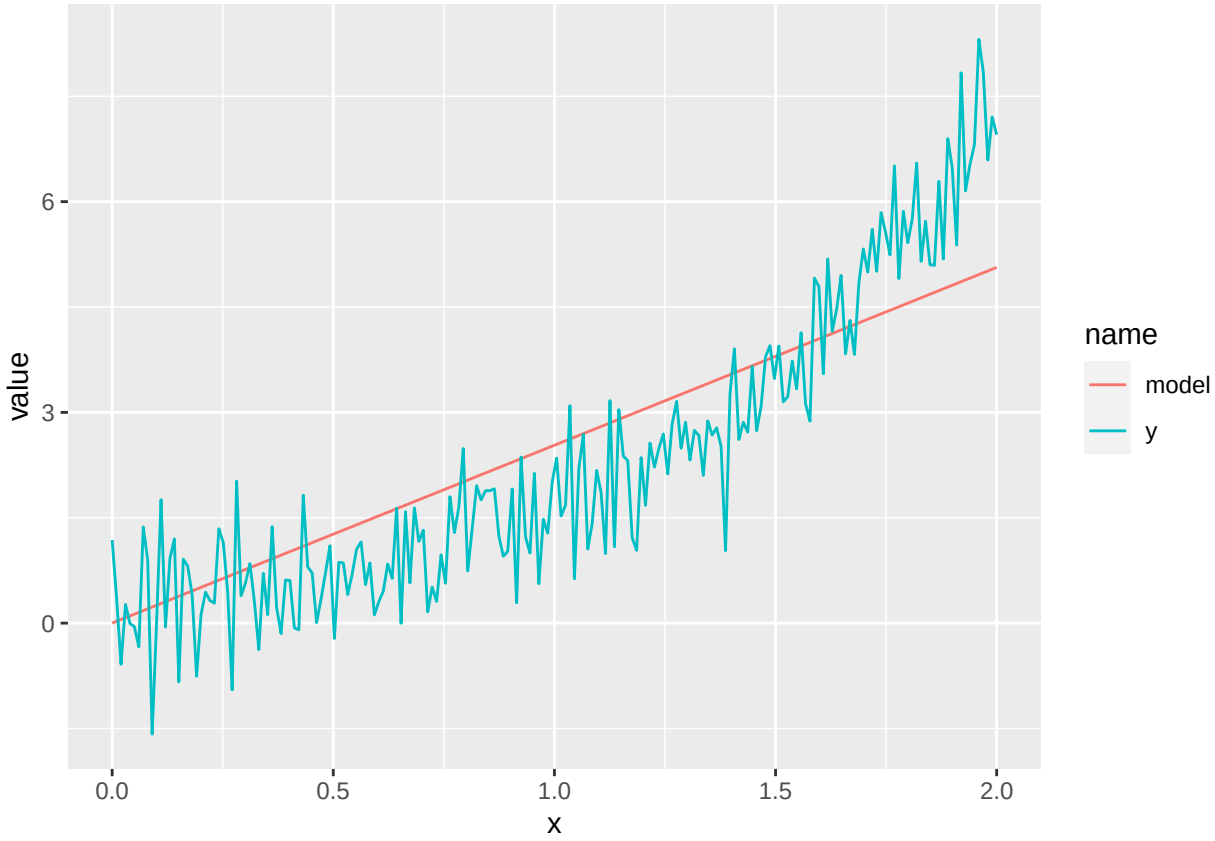
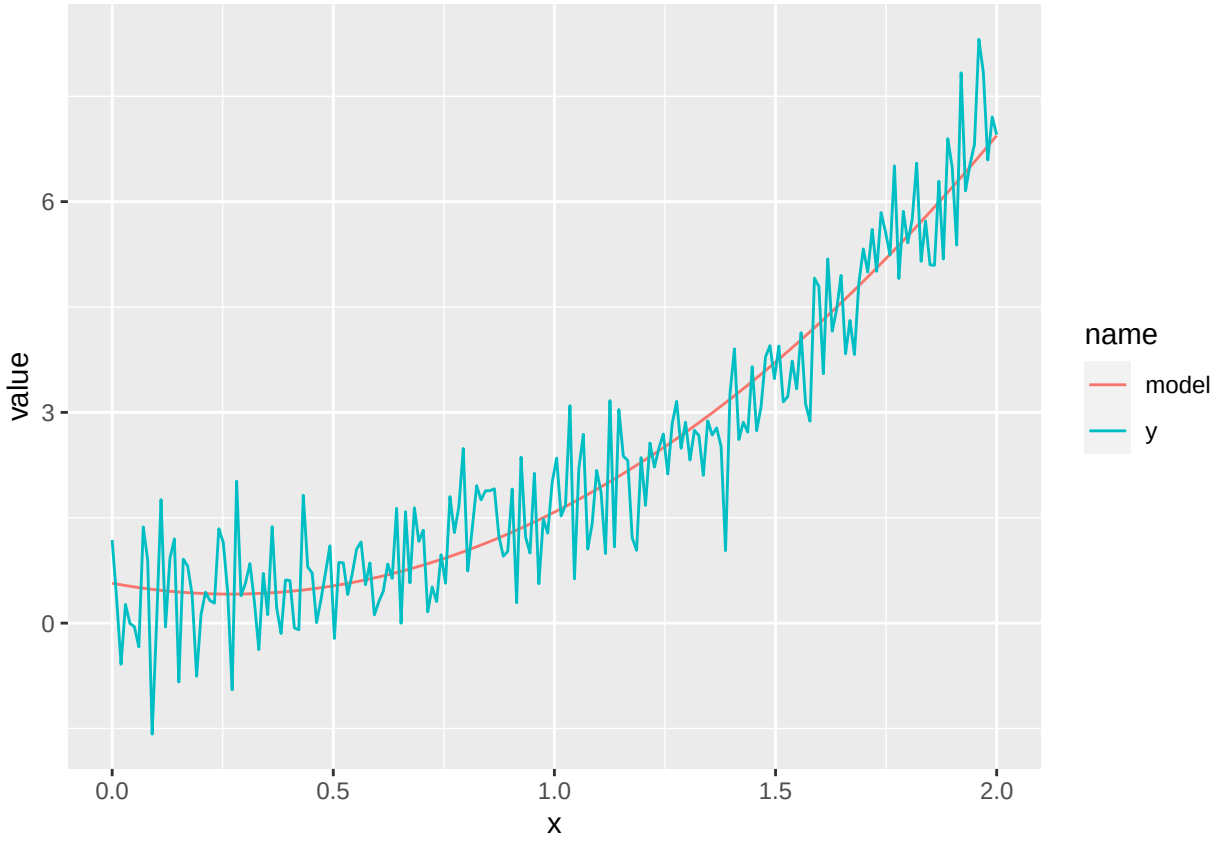
kernel regression

```
library(ggplot2)
library(tidyverse)
library(magrittr)
source("../R/kernel_functions.R")
source("../R/kernel_regression_class.R")
```

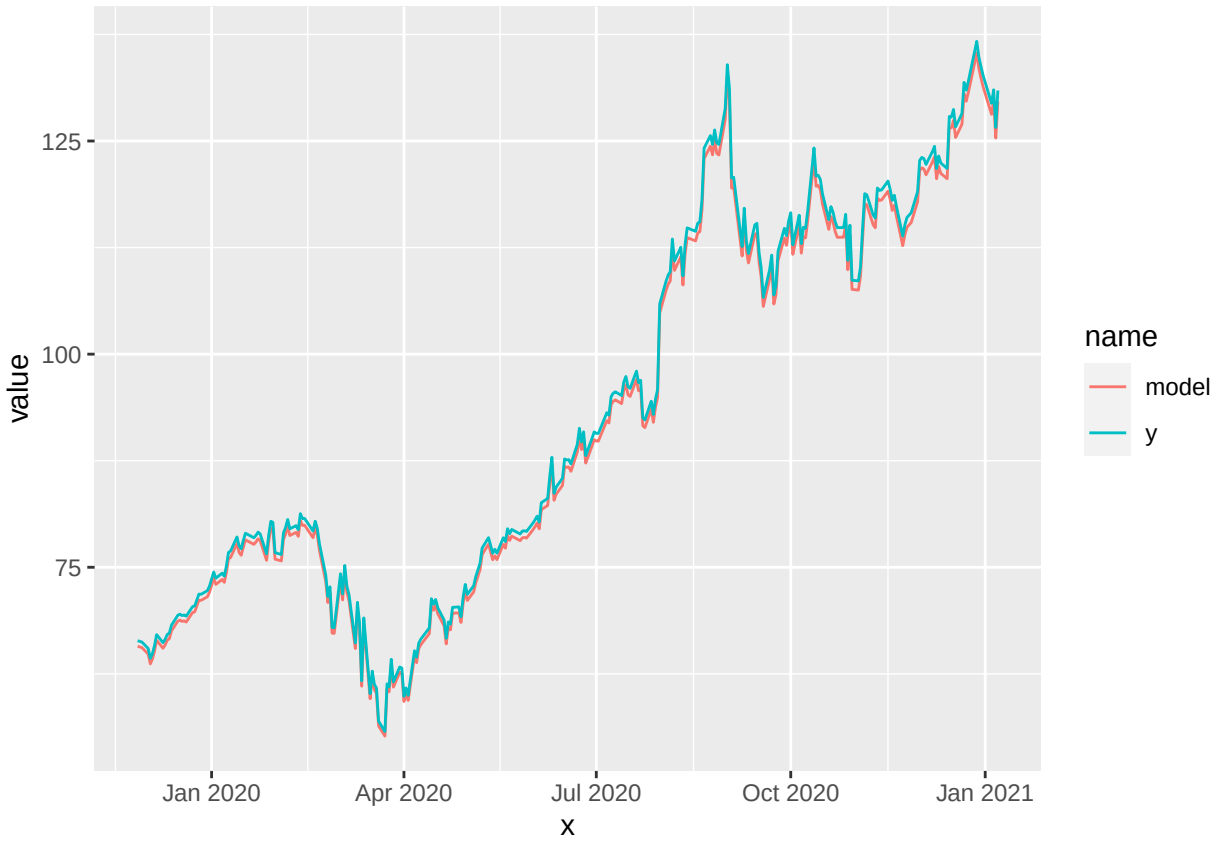
```
# Exponential data
x = as.matrix(seq(0, 2, length=200))
get_exp_data <- function(x) exp(1.5*x-1)
exp_data = get_exp_data(x)

# Noise
noise = rnorm(x, mean=0, sd = 0.64)

y = exp_data + noise

x = data.frame(x)
y = data.frame(y)

kr1 = kernel_regression(x, y)
kr1$plot()
```




```
kr1$set_kernel("poly", b=2)
kr1$plot()
```




```r
# Apple stock data
aapl_data = read.csv("../data/apple_stock_data.csv")
aapl_data %<>% select(c(date, adjusted))

x_df = data.frame(aapl_data$date)
y_df = data.frame(aapl_data$adjusted)
kr2 = kernel_regression(x_df, y_df, kernel="RBF", x_date=TRUE)
kr2$plot()
```


125
100
75
value
Jan 2020
Apr 2020
Jul 2020
Oct 2020
Jan 2021
x
name
model
y