

# Results of machine learning with features

Andreas Borup Joergensen, Mette Koch Moeller, Robert Hostrup

## Contents

Downloading the packages

```
library(magrittr) #For advanced piping
library(tidyverse)
```

Downloading the data directly from github

```
Vestas <- read_csv("D:/Hyper_test/Vestas/Results_Vestas") %>% select(Model, RMSE, MAPE)
Genmab <- read_csv("D:/Hyper_test/Genmab/Results_Genmab") %>% select(Model, RMSE, MAPE)
Carlsberg <- read_csv("D:/Hyper_test/Carlsberg/Results_Carlsberg") %>% select(Model, RMSE, MAPE)
JyskeBank <- read_csv("D:/Hyper_test/JyskeBank/Results_JyskeBank") %>% select(Model, RMSE, MAPE)
MaerskB <- read_csv("D:/Hyper_test/MaerskB/Results_MaerskB") %>% select(Model, RMSE, MAPE)
```

The RMSE for each model and stock

```
FALSE # A tibble: 7 x 6
FALSE   Model   Vestas Genmab Carlsberg JyskeBank MaerskB
FALSE   <chr>   <dbl>  <dbl>    <dbl>    <dbl>    <dbl>
FALSE 1 ANN      12.9   87.6     40.1     13.6     233.
FALSE 2 RNN      22.8   56.0     13.2      9.26    290.
FALSE 3 LSTM      23.1   69.6     13.4      8.44    317.
FALSE 4 biLSTM     25.7   70.4     16.1     11.6    332.
FALSE 5 GRU       18.6   50.4     12.1      7.97    276.
FALSE 6 biGRU     19.3   62.3     13.5     10.4    280.
FALSE 7 Average   20.4   66.1     18.1     10.2    288.
```

The MAPE for each stock and model

```
FALSE # A tibble: 6 x 7
FALSE   Stock      ANN   RNN   LSTM biLSTM   GRU biGRU
FALSE   <chr>    <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>
FALSE 1 Vestas    2.60  4.13  4.02  4.27  3.02  3.28
FALSE 2 Genmab    6.81  3.79  4.83  4.81  3.34  4.40
FALSE 3 Carlsberg 4.47  1.45  1.44  1.74  1.34  1.49
FALSE 4 JyskeBank 3.28  2.20  2.10  2.79  2.00  2.49
FALSE 5 MaerskB   2.37  2.91  3.19  3.32  2.68  2.83
FALSE 6 Average   3.91  2.90  3.11  3.39  2.47  2.90
```