Fachhochschule Südwestfalen
University of Applied Sciences

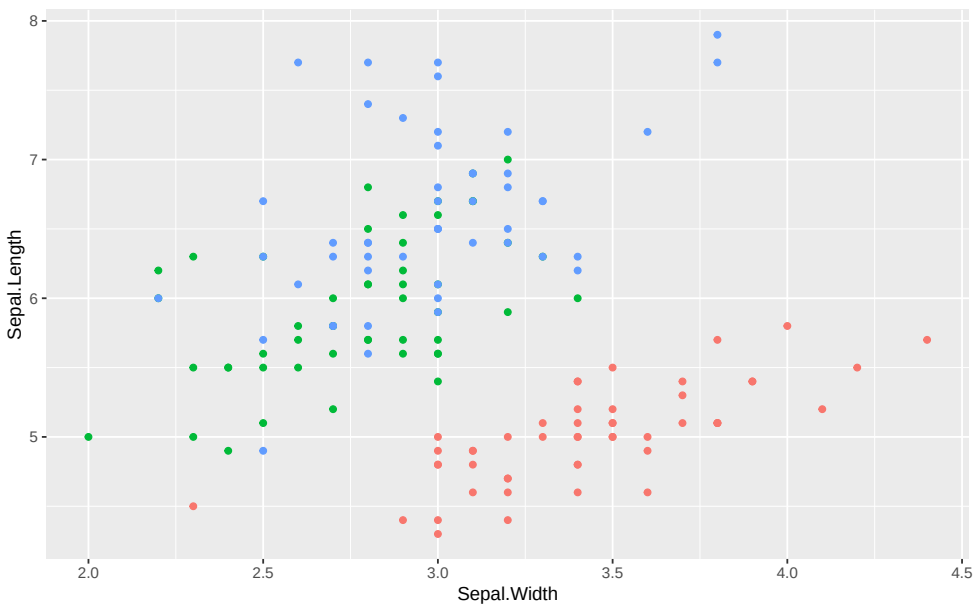
Statistik

CH.0 - einführung test

SS 2021

Wir geben Impulse

new



R is a collaborative project with many contributors. Type ‘contributors()‘ for more information and ‘citation()‘ on how to cite R or R packages in publications.

Test

one

two

Lecturer

Professor Rob Hyndman

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Tutor

Puwasala Gamakumara

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Brief bio

- Professor of Statistics, Monash University
- Editor-in-Chief, *International Journal of Forecasting*

How my forecasting methodology is used:

- Pharmaceutical Benefits Scheme
- Cancer incidence and mortality
- Electricity demand
- Ageing population
- Fertilizer sales

robjhyndman.com

Unit objectives

1. To obtain an understanding of common statistical methods used in business and economic forecasting.
2. To develop the computer skills required to forecast business and economic time series data;
3. To gain insights into the problems of implementing and operating large scale forecasting systems for use in business.

Teaching and learning approach

Two 50 minute classes and a one 80 minute computer lab session each week for 12 weeks.

RStudio

Key reference

Hyndman, R. J. & Athanasopoulos, G. (2018) *Forecasting: principles and practice*, 2nd edition

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OTexts.org/fpp2/

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- Free and online
- Data sets in associated R package `fpp2`
- R code for examples

Install required packages

```
install.packages("fpp2", dependencies=TRUE)
```

Outline

Week	Topic	Chapter
1	Introduction to forecasting and R	1
2	Introduction to forecasting and R	2
3	Time series graphics & decomposition	3,6
4–5	Exponential smoothing	7
6–8	Forecasting with ARIMA models	8
9–10	Multiple regression and forecasting	5
11	Dynamic regression	9
12	Advanced methods	11

Assessment

- Nine short weekly assignments, worth 2% or 4% each.
- One project due at the end of the semester, worth 20%.
- Exam (2 hours): 60%.

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Project	Fri 25 May	20%
Final exam	Official exam period	60%

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- Need at least 45% for exam, and 50% for total.

Moodle site

- Includes all lecture notes, handouts, assignments
- Forum for asking questions, etc.
- Assignment submissions

DataCamp

- All students must complete this course by Monday 5 March.

DataCamp

- We will do one chapter at a time throughout the semester.