A Handbook of Statistical Analyses
Using R

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CHAPTER 16

Errata

The document gives a list of typos, errors, inconsistencies etc. which have been spotted. Moreover, small numeric output differences which are due to updated packages are reported here. To get a full list of differences run R CMD check HSAUR on the source package. All issues marked with R1, R2 etc have been silently fixed in first reprint, second reprint etc.

Preface

Typo in name of vignette for Chapter 1, should read

R> vignette("Ch_introduction_to_R", package = "HSAUR")

and

R> edit(vignette("Ch_introduction_to_R", package = "HSAUR"))

As of version 1.0-3, only the correctly named vignette is available (R1).

16.1 Introduction to R

• Type at page 11: '.' needs to be double-quoted in list.files (R1)
• Typo at page 20 (Ex. 1.5): number of companies, not number of countries (R1).

16.2 Simple Inference

Typo at page 31, code line 4: use argument varwidth = TRUE, not var.width = TRUE (R1).

16.3 Conditional Inference

• The names of the test statistics in the output have been changed from T to Z or chi-squared throughout the chapter (R1).
• Reference Hothorn et al. (2006a) updated (R1)

16.4 Analysis of Variance

Figure 4.3 had wrong line types in legend (Beef and Cereal interchanged) (R2).
16.5 Multiple Linear Regression
- Page 74, Table 5.1: The values for cloudcover and sne had to be exchanged. The corresponding coefficients and Figures in this chapter change accordingly (R1).
- Page 83: both fitted and predict can be used to compute fitted values, the later on can be applied to new unseen data as well (R1).
- Page 87: $\hat{y}_i$ instead of $\hat{y}$ in the definition of the standardized residual.

16.6 Logistic Regression and Generalised Linear Models
- page 97: predictions are to be computed for plasma_glm_2, not plasma_glm_1 (affects Figure 6.4) (R2).
- Function myplot (page 100): the vfont argument in text has been changed to family = "HersheySerif" (the resulting plots remain the same) (R1).

16.7 Density Estimation
- Page 117: typo: in instead of is
- Page 121: small numeric differences for the output of optim
- update to mclust version 3.0-0 (new names of parameters in mclust objects)

16.8 Recursive Partitioning
- Page 138: the probability for glaucoma is predict(trees[[i]], newdata = GlaucomaH)[,1] and the code for converting average class probabilities in factors has to be reverted, too. Affects Figure 8.4. (which is now in sync with the interpretation).
- Page 139: small differences in predtab
- Page 140: small differences in table at bottom of this page
- Reference Hothorn et al. (2006b) updated (R1)
- Page 142, Ex. 8.1.: regression tree, not classification tree.

16.9 Survival Analysis
- The name of the test statistic in the output of surv_test has been changed to chi-squared (R1).
- Denominator $s$ was missing from $h(t)$ (page 147) (R2).

16.10 Analysing Longitudinal Data I
Page 168, Figure 10.2: summary does not provide degrees of freedom and p-values in newer versions of lme4.
ANALYSING LONGITUDINAL DATA II

16.11 Analysing Longitudinal Data II

–nothing known–

16.12 Meta-Analysis

• Page 202: \( \mu_i \sim N(\mu, \tau^2) \), not \( N(\mu, \tau^2) \) (R2).
• Page 202: \( W_i = 1/(V_i + \hat{\tau}^2) \) since \( V_i \) is the within-study variance.
• Page 207: square for \texttt{selogs} was missing (R2).

16.13 Principal Component Analysis

–nothing known–

16.14 Multidimensional Scaling

In the formula for \( b_{ij} \) on page 231 the last term in the parentheses should have a plus sign not a minus sign.

16.15 Cluster Analysis

• update to \textit{mclust} version 3.0-0 (new plot method)
• Page 248: the likelihood needs \( |\Sigma_j|^{-1/2} \)
• Page 248: \( W_j \) is a \( q \times q \) matrix
• Page 248: \( \Sigma_j = \Sigma, j = 1, \ldots, c. \)
• Page 248:

\[
\ell(\vartheta, \gamma) = -\frac{1}{2} \sum_{j=1}^{c} \text{trace}(W_j \Sigma_j^{-1}) + n_j \log |\Sigma_j|
\]

• Page 248: \( \sum_{j=1}^{c} n_j \log |W_j/n_j| \)

Thanks

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Bibliography
