Multilinear Subspace Learning
Dimensionality Reduction of Multidimensional Data

Errata as of 19th January, 2015

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1 ERRATA BY 19 JANUARY 2015

Equation (6.77) on Page 129 and Equation (7.68) on Page 158 should be

$$2\tilde{\mathbf{g}}_q^T \hat{\mathbf{Y}}_p^{(n)^T} \hat{\mathbf{S}}_{T_p}^{(n)} \mathbf{u}_p^{(n)} - \sum_{s=1}^{p-1} \mu_s \tilde{\mathbf{g}}_q^T \hat{\mathbf{Y}}_p^{(n)^T} \hat{\mathbf{Y}}_p^{(n)} \tilde{\mathbf{g}}_s = 0. \tag{1}$$

and

$$2\tilde{\mathbf{g}}_q^T \hat{\mathbf{Y}}_p^{(n)^T} \hat{\mathbf{S}}_{W_p}^{(n)^{-1}} \hat{\mathbf{S}}_{B_p}^{(n)} \mathbf{u}_p^{(n)} - \sum_{s=1}^{p-1} \mu_s \tilde{\mathbf{g}}_q^T \hat{\mathbf{Y}}_p^{(n)^T} \hat{\mathbf{S}}_{W_p}^{(n)^{-1}} \hat{\mathbf{Y}}_p^{(n)} \tilde{\mathbf{g}}_s = 0. \tag{2}$$

respectively, i.e., since q is used for the index of the multiplied term, the summation should use a different symbol $s$the first two terms in the middle of Equation (2.13) and the left of Equation (2.14) should be multiplied by 2.

2 ERRATA BY 08 DECEMBER 2014

Page 22: Equation (2.13) and Equation (2.14) should be

$$\frac{\partial \psi_2}{\partial \mathbf{u}_2} = 2\mathbf{S}_T \mathbf{u}_2 - 2\lambda \mathbf{u}_2 - \mu \mathbf{u}_1 = \mathbf{0}$$

and

$$2\mathbf{u}_1^T \mathbf{S}_T \mathbf{u}_2 - 2\lambda \mathbf{u}_1^T \mathbf{u}_2 - \mu \mathbf{u}_1^T \mathbf{u}_1 = 0 \Rightarrow \mu = 0,$$

respectively, i.e., the first two terms in the middle of Equation (2.13) and the left of Equation (2.14) should be multiplied by 2.

3 ERRATA BY 06 AUGUST 2014

Page 34, Equation (2.69): μ should be μ_p and there should be a plus sign '+' right before the summation sign so Equation (2.69) should read as

$$\frac{\partial \psi_p}{\partial \mathbf{u}_{y_p}} = \mathbf{\Sigma}_{\mathbf{yx}} \mathbf{u}_{x_p} - \mu_p \mathbf{\Sigma}_{\mathbf{yy}} \mathbf{u}_{y_p} + \sum_{q=1}^{p-1} \omega_q \mathbf{\Sigma}_{\mathbf{yy}} \mathbf{u}_{y_q} = \mathbf{0}.$$

4 ERRATA BY 22 JANUARY 2014

4.1 Those (likely) affecting reading

Bibliography
- Page 240, the sixth reference (Hitchcock1927a): the title should be "The expression of a tensor or a polyadic as a sum of products" (rather than "Multiple invariants and generalized rank of a p-way matrix or tensor") and the volume number should be "6" rather than "7".

Index
- Page 263 to 268, the **index**: all page numbers greater than 16 should plus 2. E.g. page 17 should be page 19, page 18 should be page 20, and so on.

4.2 Those not (likely) affecting reading

Bibliography

- Page 235, the fourth reference (Comon1994): the issue number is missing and it should be "3".
- Page 240, the first reference (He2005b) should be removed (the same as the second one).
- Page 240, the eleventh reference (Hotelling1936): the issue number should be "3/4" rather than "7".