Errata in the First Printing

p. 18  Section I.3, Line 7 (just above the box) should refer to Section IV.6

p. 27  Section I.4, Problem 2: Delete last sentence ‘Then . . . unique.’

p. 55  Section I.7, Problem 28, Part (c): \( \lambda_1 \), not \( \lambda \)

p. 69  Section I.8, Problem 9: First line, remove 1/2 both times. End of second line ‘. . . exactly \( 2Sx = 2\lambda x \).’

p. 70  Section I.8, Problem 19: The matrix with orthogonal columns of lengths 2, 3, 4 should be \( A \) and not \( S \).

p. 73  Section I.9, Subsection ‘The Frobenius Norm’: In the beginning, ignore the words ‘Eckart-YoungFrobenius Norm’

p. 75  Section I.9, Equation (19): Change 2nd partial derivative from \( \frac{\partial E}{\partial R} \) to \( (\frac{\partial E}{\partial R})^T \)

p. 75  Section I.9: See the book’s website for Dan Drucker’s computations!

p. 76  Section I.9: 11th line from the bottom, \( A = \begin{bmatrix} 3 & -4 & 7 & 1 & -4 & -3 \\ 7 & -6 & 8 & -1 & -1 & -7 \end{bmatrix} \)

p. 82  Section I.10: Last line in box, change ‘\( \lambda Mx_1 \)’ to ‘\( \lambda_1 Mx_1 \)’

p. 95  Section I.11: Example 1, Matrix changes from \( \begin{bmatrix} 5 & 15 \\ 15 & 45 \end{bmatrix} \) to \( \begin{bmatrix} 10 & 20 \\ 20 & 40 \end{bmatrix} \)

p. 95  Section I.11: Example 1, Matrix changes from \( \begin{bmatrix} 5 & 5 \\ 5 & 5 \end{bmatrix} \) to \( \begin{bmatrix} 2 & 4 \\ 4 & 8 \end{bmatrix} \)

p. 99  Section I.12: Line 4, (columns of \( B \)).

p. 107  Section I.12: Line 9, the word is ‘frequently’, not ‘frequency’.

p. 120  Section II.1: Line 12th line from the bottom, reference is (7) not (8).

p. 131  Section II.2: Example, matrix changes from \( \begin{bmatrix} 4 & x \\ 3 & x \end{bmatrix} \) to \( \begin{bmatrix} 4 & * \\ 3 & * \end{bmatrix} \)
Errata in the First Printing

p. 131  Section II.2: Example, matrix changes from
\[
\begin{bmatrix}
5 & x \\
0 & x
\end{bmatrix}
\] to
\[
\begin{bmatrix}
5 & * \\
0 & *
\end{bmatrix}
\]

p. 135  Section II.2, Problem 9 line 2: Change \(a^T q_1\) to \(b^T q_1\)

p. 135  Section II.2, Problem 11 line 1: Exchange the \(+\) and the \(T\) to get \(QQ^T = AA^+\).
Note: Those are the same projections onto \(C(A)\)

p. 162  Section III.1, first line: The first row of matrix \(M^{-1}\) should read 1 1 2

p. 182  Third reference: Change from ‘N’ to ‘N Truhar’

p. 216  Section IV.2, Equation 11: Correct matrix is
\[
\begin{bmatrix}
1 & 1 & 1 & 1 \\
1 & i & i^2 & i^3 \\
1 & i^2 & i^4 & i^6 \\
1 & i^3 & i^6 & i^9
\end{bmatrix}
\]

p. 238  Section IV.5, Problem 5: ‘The symbol 5’ (not ‘The symbol \(S\)’)

p. 297  Section V.4, Equation (10): Modified,
\[
V = E \left[ (X - \overline{X}) (X - \overline{X})^T \right] \quad V_{ij} = \sum p_{ij} (X_i - m_i) (X_j - m_j)
\]

p. 395  Section VII.2, line 14: Replace ‘It is hard to predict whether deep ConvNets will be replaced by ResNets.’ with ‘By sending information far forward, features that are learned early don’t get lost before the output. Residual networks have become highly successful deep networks.’

p. 417  Line 6 from the bottom: ‘The diagonalization (3) breaks down…’