Eighth printing

Chapter 2

page 34 Eq. 44: Change "$\mathbf{\Phi\Lambda}^{-1/2}$" to "$\mathbf{\Phi\Lambda}^{-1/2}\mathbf{\Phi}^t$"

page 47 *third line after Eq. 75*: Change "that minimizes $e^{-k(\beta)}$" to "that minimizes $P^{\beta}(\omega_1)P^{1-\beta}(\omega_2)e^{-k(\beta)}$"

page 48 Example **2**, *line +3*: Change "4.11," to "4.11157,"

page 48 Example **2**, *line +4*: Change "0.016382." to "0.008191."

page 48 Example **2**, second paragraph: Change "A tighter bound" to "A slightly tighter bound"

page 48 Example **2**, second paragraph, *line +2*: Change "0.016380" to "0.008190."

page 59 *top equation*: Change

$$\begin{aligned} &= 0.25 \times 0.6 \times 0.4 \times 0.5 \times 0.4 \\ &= 0.012. \end{aligned}$$

to

$$\begin{aligned} &= 0.25 \times 0.6 \times 0.6 \times 0.5 \times 0.4 \\ &= 0.018. \end{aligned}$$

page 61 Eq. 102: Replace equation by "$P(\mathbf{a},\mathbf{b}|\mathbf{x}) = P(\mathbf{a}|\mathbf{x})P(\mathbf{b}|\mathbf{x})$"

Chapter 3

page 87 *line -5*: Change "$l(\boldsymbol{\theta})p(\boldsymbol{\theta})$" to "$l(\boldsymbol{\theta}) + \ln p(\boldsymbol{\theta})$"

page 97 *line +3*: Change "Problem 17" to "Problem 18'

page 102 *line 5*: Change "*invarinace*" to "*invariance*"

page 102 *first line after Eq. 54*: Change "paramter" to "parameter"

page 107 *2 lines above Eq. 71*: Change "Problem 30" to "Problem 31"

page 111 *line -6*: Change "its determinant is an $O(d^2)$" to "its determinant is an $O(d^3)$"

page 111 Eq. 74: Change the annotations above the equation from "$O(dn)\quad O(nd^2)\quad O(1)\quad O(d^2n)\quad O(n)$" to "$O(dn)\quad O(nd^3)\quad O(1)\quad O(d^3)\quad O(n)$"

page 126 *first line of the equation at the middle of the page*: Change "$|\boldsymbol{\theta}^0;\ \mathcal{D}_g)]$ to "$|\mathcal{D}_g;\ \boldsymbol{\theta}^0]$"

page 127 *lines -2– -1*: Change "$x_{41} = 2$, so that $\mathbf{x}_4 = \binom{2}{4}$" to "$x_{41} = 1$, so that $\mathbf{x}_4 = \binom{1}{4}$"

Chapter 4

page 173 *Algorithm 1*, *line 5*: Change "$\mathbf{x} \in \omega_i$" to "$\mathbf{x}_j \in \omega_i$"

page 173 *line after Eq. 28*: Change "each output unit" to "each category unit"

page 173 *two lines above Eq. 29*: Change "activation function function" to "activation function"

page 192 *line -7*: Change "is that that in the extreme cases the" to "is that in the extreme cases when the"

page 194 *3 lines above numbered list*: Change "we should deman" to "we should demand"

page 194 *one line above numbered list*: Change "Cox-Jaynes axioms):" to "Cox-Jaynes axioms), which includes:"

page 196 *Algorithm 4*, *line 4*: Change the small element below from "$\mathbf{x} \notin \omega_i$" to "$\mathbf{x}' \notin \omega_k$"

page 196 *Algorithm 4*, *line 5*: Replace equation portion by "$\lambda_j \leftarrow \min[\max[D(\hat{\mathbf{x}}, \mathbf{x}'), \epsilon], \lambda_m]$"

page 200 *line -8*: change "Jayne" to "Jaynes"

page 213 Replace reference [23] with: "Edwin T. Jaynes and G. Larry Bretthorst, *Probability Theory: The Logic of Science*, Cambridge U. Press, 2003."

Chapter 5

page 221 *line +8*: Change "Figure 5.6 shows" to "Figure 5.5 shows"

page 229 Caption to Figure 5.12, *line +4*: Change "this sequence is $\mathbf{y}_2$, $\mathbf{y}_3$, $\mathbf{y}_1$, $\mathbf{y}_3$" to "this sequence is $\mathbf{y}_1 + \mathbf{y}_2 + \mathbf{y}_3$, $\mathbf{y}_2$, $\mathbf{y}_3$, $\mathbf{y}_1$, $\mathbf{y}_3$"

page 236 *line just above Eq. 35*: Change "analogous to Eq. 33" to "analogous to Eq. 34"

page 252 *second unnumbered equation below Eq. 84, middle*: Change "$-\eta \mathbf{e}^t(k)\mathbf{e}^{+t}(k)$" to "$-\eta \mathbf{e}^t(k)\mathbf{e}^{+}(k)$"

page 266 *line +3*: Change "that $\mathbf{y} \in \mathcal{Y}_1$" to "that $\mathbf{y}_k \in \mathcal{Y}_1$"

page 266 Eq. 113: Change "$\hat{\mathbf{a}}_i^t \mathbf{y}_k$" to "$\hat{\mathbf{a}}_1^t \mathbf{y}_k$"

page 266 *9 lines above Sect. 5.12.2*: Change "we construct $(c-1)c\hat{d}$-dimensional" to "we construct $(c-1)c\ \hat{d}$-dimensional" (that is, add a space)

page 266 *8 lines above Sect. 5.12.2*: Change "into $c\hat{d}$-dimensional" to "int $c\ \hat{d}$-dimensional" (that is, add a space)

Chapter 8

page 396 *2 lines above Sect. 8.3*: Change "knowledge if of greatest" to "knowledge is of greatest"

page 413 8.5, lines 3 – 4: Change "nucleic acids" to "bases"

Chapter 9

page 461 *Equation 6, in the lower limit on the summation*: Change "$r-2$" to "$r = 2$"

page 468 *two lines above Eq. 16*: Change "error rate $\Pr[g(\mathbf{x};\ \mathcal{D})] = y$" to "error rate $\Pr[g(\mathbf{x};\ \mathcal{D})] \neq y$"

page 468 *Eq. 16, lhs*: Change "$\Pr[g(\mathbf{x};\ \mathcal{D})] = y$" to "$\Pr[g(\mathbf{x};\ \mathcal{D})] \neq y$"

page 468 *Eq. 17, lhs*: Change "$\Pr[g(\mathbf{x})] = y$" to "$\Pr[g(\mathbf{x})] \neq y$"

page 468 *Eq. 17, rhs*: Change "$\Pr[y_B(\mathbf{x}) = y]$" to "$\Pr[y_B(\mathbf{x}) \neq y]$"

page 469 *Eq. 21*: Change "$e^{-1/2u^2}$" to "$e^{-u^2/2}$"

page 472 *Eq. 23*: Change "$\frac{(n-1)}{n}$" to "$\frac{1}{n(n-1)}$"

Chapter 10

page 529 *line -1*: Change "as given by Eq. 17." to "that is, each point belongs in only one cluster."

page 549 *Eq. 75, middle line, rhs, subscript on the summation*: Change "$\mathbf{x} \in \mathcal{D}_i$" to "$\mathbf{x} \in \mathcal{D}_j$"

page 552 *Algorithm 4, line 5*: Change "$c = \hat{c}$" to "$\hat{c} = c$"

page 553 *one line above* **The Nearest-Neighbor Algorithm**: Change "$O(cn^2d)$" to "$O(n^2(c + d))$"

page 556 *Algorithm 5, line 5*: Change "$c = \hat{c}$" to "$\hat{c} = c$"

page 557 *line 14 of Sect. 10.10*: Change "decrease rapidly until $\hat{c} = c$" to Change "decrease rapidly until $c = \hat{c}$"

page 559 *last three lines*: Change "For reasons that will become clear, each d-dimensional pattern is augmented (with $x_0 = 1$) and normalized" to "Each d-dimensional pattern is augmented (with $x_0 = 1$) and, for reasons that will become clear, normalized"

page 571 *line -1*: Change "Jacobean" to "Jacobian"

page 577 Chaption Figure 10.28, line -3: Change "sensed point, thought" to "sensed point, though"