Errata

Page 29: Change sentence at top of page to "In the data-centric context most appropriate for the natural sciences," .

Page 38, Project 1.1: Replace n_α^2 in equation with N_A^2.

Page 67, 4th line below box: Replace "integrating" with "marginalizing".

Page 71, 3rd line above 3rd equation: Replace "array" with "arrays".

Page 95, Note 2.34, last equality: Replace $(0, B)$ with $(0, \sqrt{2}B)$.

Page 96, Eq. (2.60): Replace B/ζ with $\sqrt{2}B/\zeta$.

Page 96, Note 2.35: Replace $\sigma = B/\zeta$ with $\sigma = \sqrt{2}B/\zeta$.

Page 98, Eq. (2.69): Multiply the right hand side of the equality by a factor of $1/2$.

Page 103, Exercise 2.3: Replace sentence with "Also assume $g_{\mathcal{A}} + g^*_{\mathcal{A}} = 1$, $g_{\mathcal{B}} + g^*_{\mathcal{B}} = 1$, and $g^*_{\mathcal{A}} + g*_{\mathcal{B}} \leq 1$".

Page 103, Exercise 2.3: In last point, change to $g^*_{\mathcal{A}} + g^*_{\mathcal{B}} = 1$ to $g^*_{\mathcal{A}} + g^*_{\mathcal{B}} \leq 1$.

Page 104, Exercise 2.7, in both equation: Replace "BdW_t" with "$\sqrt{2}BdW_t$".

Page 105, Exercise 2.8, third equation: Replace "$B_{s_n}dW_t$" with "$\sqrt{2}B_{s_n}dW_t$".

Page 117, Paragraph starting with "This discussion", second sentence: Replace "The first are the" with "The second are the".

Page 134: Replace "This logic is illustrated" with "This logic is later illustrated".

Page 135: Rename Note 4.2 "Ratio of posteriors". Remove "also called a Bayes' factor". We can add an additional note explaining that Bayes' factor is a ratio of the evidence–not the likelihood. Fix index referencing Bayes' factor.

Page 141, Note 4.7: Replace "in an effort to enforce" with "in an effort to impose".

Page 143. Note 4.8: Replace "they have parameters on their own" with "they have parameters of their own". Also replace "Consider hyperparameters γ, then we can" with "Considering hyperparameters γ, we can".

Page 146, Example 4.8, second equation: Replace $p(\mu) =$ with $p(\mu|\tau) =$. In equation just below

that, re-write first equality as $p(\mu, \tau) = p(\mu|\tau)p(\tau)$.

Page 165, Eq. (5.4): Replace the argument of the Gamma with "$\tau; \alpha + \frac{N}{2}, \frac{1}{\frac{1}{\beta} + \frac{1}{2}N\left(\bar{s} + \frac{\psi_0}{\psi_0 + N}(\bar{w} - \xi)^2\right)}$".

Below Eq. (5.5) define $\bar{s} = \frac{1}{N}\sum_{n=1}^{N}(w_n - \bar{w})^2$, $\bar{w} = \frac{1}{N}\sum_{n=1}^{N} w_n$.

Page 171, Algorithm 5.1, last line: Replace $<$ with $\leq$.

Page 184, 7th line from bottom: Replace subscript on fancy pi from $-r_m$ to r_{-m}.

Page 189, Example 5.10: Change all ω's to π's.

Page 207: Replace v^{temp} with $\mathbf{v}^{\text{temp}}$ and v_ℓ with $\mathbf{v}_\ell$.

Page 217, Below first equation: Replace "subject to a constraint on" with "subject to penalties in".

Page 224, 2nd equation: Normal should be $\text{Normal}_{N^\sharp}$.

Page 224, 4th equation: Drop the n subscript on y.

Page 224, last equation: $C^{*\sharp}$ and $C^{\sharp *}$ should be $C^{\star\sharp}$ and $C^{\sharp\star}$.

Page 225, the sentence above 2nd equation: $p(f^\dagger, f^\star)/p(f^*)$ should be $p(f^\dagger, f^\star)/p(f^\star)$.

Page 225, 2nd equation: $p(f^*)$, $C^{*\dagger}$, and $C^{\dagger *}$ should be $p(f^\star)$, $C^{\star\dagger}$, and $C^{\dagger\star}$.

Page 225, 3rd equation: $C^{\dagger *}$ should be $C^{\dagger\star}$.

Page 229, 5th line of equations: both Normal should be replaced with Normal_N.

Page 243, Project 6.7: In both instances, replace n_α with n_i.

Page 254: Remove the second incidence of word "that" in the sentence "that, more generally, states that".

Page 259, Above Note 2.8: Change "Uniform" to "uniform".

Page 259, Note 7.8: Change "nonuniform" in title to "non-uniform".

Page 261, Project 7.2, last sentence of page: Change "1-10 ns" to "0.1-1 ns^{-1}".

Page 279, In Algorithm 8.5, for n=1: Change 3 subscripts from n to 1.

Page 317, In reference starting with Schuler: Replace "B. Schuler, and H. Hofmann." with "B.

Schuler, H. Hofmann."

Page 344, Last reference: Change "Hidden" to "hidden". Also change "120:409 (2021)" to "120:409, 2021".

Page 359, In the definition of the NegBinomial: Replace $(1-\pi)^k$ with $(1-\pi)^J$.

Page 384, In the integral above "We recall": Remove factor of 2.

Page 384, In the last two expressions of Chapter 2: Add a factor of 1/2 immediately following the equality.

Page 387, In last line of "Derivation of Eq. (5.4)": Replace the argument of the Gamma with "$\tau; \alpha + \frac{N}{2}, \frac{1}{\frac{1}{\beta}+\frac{1}{2}N\left(\bar{s}+\frac{\psi_0}{\psi_0+N}(\bar{w}-\xi)^2\right)}$". Below this equation, define $\bar{s} = \frac{1}{N}\sum_{n=1}^{N}(w_n - \bar{w})^2$, $\bar{w} = \frac{1}{N}\sum_{n=1}^{N} w_n$.

Backcover: Add title "Professor" to Martin Gruebele and Shimon Weiss.