Statistical Inference for Engineers and Data Scientists

Errata List

7/28/19

- p. 16, Def. 1.4: $\sum_{\ell=1}^{L} \gamma_\ell$ should be $\sum_{\ell=1}^{L} \gamma_\ell = 1$.
- p. 28, ln. 2: $C(0|y) = \pi_1(y)$ should be $C(0|y) = \pi(1|y)$
- p. 72, Fig. 4.1: p_θ and $p_{\theta'}$ should be swapped
- p. 73, Eq. (4.8): two equations were combined into one with LHS of the first being combined with the RHS of the second. The correct form is:

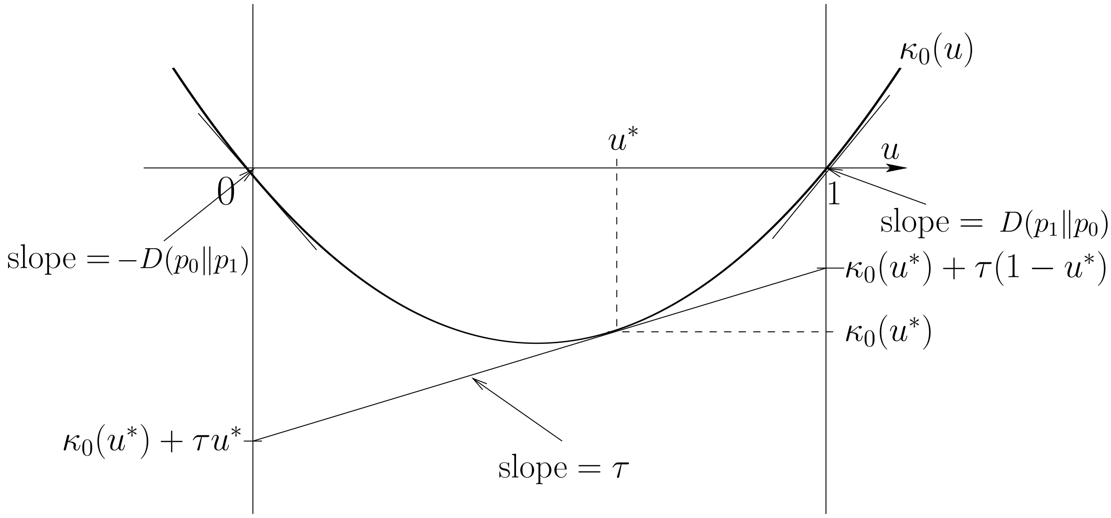
and the conditional densities for the hypotheses as

$$p(y|H_j) \triangleq \int_{\mathcal{X}_j} p_\theta(y)\pi_j(\theta)d\nu(\theta) = \frac{1}{\pi_j} \int_{\mathcal{X}_j} p_\theta(y)\pi(\theta)d\nu(\theta) \qquad (4.8)$$

then we can see that

$$C(1|y) \le C(0|y) \iff L(y) \ge \eta$$

- p. 76, first equation: there should be a π_1 in front of the second double integral.
- p. 78, Eq . (4.17): in the second line, $<$ should be $>$.
- p. 98, line after last equation: the phrase "which implies $a = \frac{1}{b}$" should be deleted.
- p. 103, Exercise 4.17, ln. 3: μ should be replaced by ρ.
- p. 105, Eq. (5.1): The variable y on the LHS of the equation should be bold-faced.
- p. 106, first sentence in Sec. 5.2: $\boldsymbol{S}_1 = (S_{0,1}, \ldots, S_{0,n})$ should be $\boldsymbol{S}_1 = (S_{1,1}, \ldots, S_{1,n})$
- p. 108, Eq. (5.11): $\ln \eta$ should be replaced by $\sigma^2 \ln \eta$.
- p. 112, Eq. (5.21), ln. 3: the negative sign before $\frac{1}{2}[$ should be deleted.
- p. 126, second equation: the term in the product on the RHS should be $M_{j,W_k}(\sigma)$
- p. 127, second text line: "$\mathsf{C}_S = \sigma_S^2$" should be "$\mathsf{C}_S = \sigma_S^2 \mathsf{I}_n$".
- p. 127, line above Eq. (5.70), "σ under H_1" should be "σ under H_0"
- p. 170, Fig. 7.4. The labels on the $u = 1$ axis are incorrect. The figure needs to be replaced by the following:



- p. 228, Exercise 9.6: right parenthesis missing in equation for W_n.
- p. 229, Exercise 9.9: the title should be changed from "CuSum Simulation" to "Shiryaev Simulation".
- p. 266, first equation line: Y should be in bold-face
- p. 269, Eq. (11.20): the negative sign before "Cov" should be positive.
- p. 270: in the expressions of the conditional expectation and covariance, the term inside the inverse should have a "$+\mathsf{C}_Z$" in place of "$+\mathsf{K}$". Also, in the expression of the conditional covariance, "$Y = y$" should be bold-faced
- p. 271, Sec. 11.8.1, 2nd bullet: θ_j in the denominator should be η_j
- p. 273, line below Eq. (11.34): π should be $\boldsymbol{\theta}$
- p. 282, Example 12.1: in the expression of n_{11}, the variable in the summation should be "$k = 1$" and not "$i = 1$".
- p. 304, Eq. (13.23): the differential sign in the denominator should be ∂ instead of d, and the variable y inside the first expectation should be Y.
- p. 347, first equation for the M-Step: The vertical bar "|" after $\boldsymbol{y}^\top$ should be deleted in both lines.
- p. 367, the first equation should be replaced by:

$$\kappa_\infty = \frac{\sigma_\infty^2 h}{\sigma_\infty^2 h^2 + r}$$

  Also K_k should be replaced by κ_k in the paragraph following the equation.
- p. 381 and p. 382: The exercises use slightly different notation than in the chapter. The variables X, Y, U and V should be in bold-face, and the variables F, G, K and H should be in sans-serif.