STATISTICAL THEORY. A CONCISE INTRODUCTION (Second Edition)

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ERRATA

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- p.83, Corollary 5.1. $g(\bar{Y}_n)$ is a consistent estimator of θ (not $g(\theta)$).
- p.93, l.-5, Sketch of the proof of Theorem 5.10. It should be "the sample mean of i.i.d. random variables $(\ln f_\theta(Y_i))'$..." instead of $\ln f_\theta(Y_i)$.
- p.100, the first sentence in Section 5.11. Typo: the hypotheses should be $H_0 : \theta = \theta_0$ vs. $H_1 : \theta \neq \theta_0$.
- p.120, Example 6.18. The null hypothesis should be rejected if $T_n\left(\frac{\mu - y}{s/\sqrt{n}}\right) < \frac{1}{C+1}$ instead of $\frac{C}{C+1}$.
- p.120, Example 6.17. Table 6.1 should be placed here.
- p.121, Section 6.5.3. Typo: the hypotheses should be $H_0 : \theta \in (\theta_0 - \epsilon, \theta_0 + \epsilon)$ versus $H_1 : \theta \notin (\theta_0 - \epsilon, \theta_0 + \epsilon)$.
- p.129. Question 7.1. The more accurate version is "Show that for any prior $\pi(\theta)$ the Bayes risk of the Bayes rule $\rho(\pi, \delta^*_\pi)$ is not larger than the minimax risk w.r.t. the same loss."
- p.131, the beginning of the proof of Lemma 7.1. Typo: it should be "Let $d = a^*_2 - a^*_1$ ..." (d was missing).
- p.134, Example 7.19. Typo: a correct rejection region $\Omega_{1C}(\mathbf{y})$ should be $\Omega_{1C}(\mathbf{y}) = \{\mathbf{y} : \lambda(\mathbf{y}) = \frac{\mathbf{f_{\theta_1}(y)}}{\mathbf{f_{\theta_0}(y)}} \geq \mathbf{C}\}$ (not $\frac{\ln f_{\theta_1}(\mathbf{y})}{\ln f_{\theta_0}(\mathbf{y})} \geq C$).
- p.134, the fourth line in Section 7.7. Typo: it should be $R(\theta, \delta^*_\pi)$ in the integrand instead of $R(\theta^*_\pi, \delta)$.
- p.178. The correct version is: $RSS_{test}(h)/n_{test} - \sigma^2$ an unbiased estimator of $AMSE(\hat{g}_h, g)$, not $RSS_{test}(h)/n_{test} + \sigma^2$.
- p.213, solution of Exercise 6.1. The correct solution is:
  Calculate the sequential posterior distribution $\pi^*(\theta|y_1, y_2)$ and compare it with its counterpart $\pi(\theta|y_1, y_2)$ based on the entire data (y_1, y_2). We have

$$\pi(\theta|y_1) = \frac{f(y_1|\theta)\pi(\theta)}{f(y_1)} ,$$

$$\pi^*(\theta|y_1,y_2)=\frac{f(y_2|\theta)\pi(\theta|y_1)}{f(y_2)}=\frac{f(y_2|\theta)f(y_1|\theta)\pi(\theta)/f(y_1)}{\int f(y_2|\theta)f_1(y_1|\theta)\pi(\theta)d\theta/f(y_1)}=\frac{f(y_2|\theta)f(y_1|\theta)\pi(\theta)}{\int f(y_2|\theta)f_1(y_1|\theta)\pi(\theta)d\theta}\ ,$$

whereas due to the independency of y_1 and y_2 given θ,

$$\pi(\theta|y_1,y_2)=\frac{f(y_1,y_2|\theta)\pi(\theta)}{f(y_1,y_2)}=\frac{f(y_1|\theta)f(y_2|\theta)\pi(\theta)}{\int f(y_1|\theta)f(y_2|\theta)\pi(\theta)d\theta}=\pi^*(\theta|y_1,y_2)\ .$$

- p.214, solution of Exercise 7.1, part 1. Typos: in the formula for Bayes risk there should be $p(Gamma(\alpha,\beta),\hat{\lambda})$ and $E_{Gamma(\alpha,\beta)}$ instead of $p(Beta(\alpha,\beta),\hat{\lambda})$ and $E_{Beta(\alpha,\beta)}$.