Errata for Second Edition

December 15, 2013

2 Actuarial Models, Mixtures and Risk

1. In the end-of-chapter exercise problem 6, α should be redefined as $\alpha = \frac{Pr(\text{claims} > d \text{ in 2 years})}{Pr(\text{claims} > d \text{ this year})}$.

3 Continuous Models

1. In Example 3.9, $S_T(t) = M\Lambda(-t) = (1 - \theta(-t))^{-\alpha} = (1 + \theta t)^{-\alpha}$
2. In the end-of-chapter exercise solutions, the following corrections for the solution to problem 11: the righthand side of the centered equations should read $(1 + \theta t^w)^{-\alpha}$; the last equation should read $(1 + 2(3)^{0.25})^{-0.5} = 0.5247$.

7 Mathematical Statistics

1. In Example 7.18, the standard deviation (not the variance) should be 4 ($\sigma_X = 4$).

10 Kernel Density Estimator

1. In the 4-step summary before Example 10.4, steps 2-4 should read:
   2. Write $k_y(x)$ as the density $f(x)$ corresponding to observed value y, with associated CDF $K_y(x)$.
   3. Set the mean of the density $k_y(x)$ to be y. Solve for the non-bandwidth parameter in terms of the bandwidth parameter and y.
   4. Substitute the non-bandwidth parameter in $k_y(x)$ and $K_y(x)$ with our solution in Step 3.

11 Parametric Estimation

1. "log" in all places actually mean "ln" (logarithm operator with base e), but usually this distinction is irrelevant, i.e. for computing maxima.
2. In Example 11.10, the second equation should read:

$$l(\lambda) = \sum_{i=1}^{n} (-\lambda + x_i \ln \lambda - \ln(x_i!))$$

   and the line following the third equation should read "since $\frac{d}{d\lambda} \sum \ln(x_i!) = 0$".
3. In the solution to end-of-chapter Problem 9b), $\hat{\theta} = 90.17$ after setting the theoretical 50-th percentile with the empirical 50-th percentile, which equals to 62.5. This leads to the final answer of $S(70) = e^{-70/90.17} = 0.4601$.

4. The end-of-chapter Problem 13b) should use $\theta = 900$. The solution requires similar modifications; importantly, the log-likelihood $l(\alpha) = 6 \ln \alpha + 6\alpha \ln 900 - 6(\alpha + 1) \ln 1000 + 2\alpha \ln \frac{900}{1000}$. The answer should then be $\hat{\alpha} = 7.1184$.