Errata to "BYY Harmony Learning, Independent State Space, and Generalized APT Financial Analyses"

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In the above paper,[1] there are a number of typos in several equations. Corrections are now made as follows.

On p. 828, the first three lines in (33) should be

$$\max_{\theta_h} L_S(\theta_h)$$

$$L_S(\theta_h) = 0.5k \ln(2\pi h^2) + z_q^N(h, k) + \tilde{L}_S(\theta)$$

$$\tilde{L}_S(\theta_h) = \frac{1}{N} \sum_t \int G(uu_t, h^2 I) \ln q(u\theta) du.$$

That is, "+" was missed in the second line and there was an extra "+" at the beginning of the third line.

On p. 829, "$z_q(h^{\mathrm{old}, k})$" in the last line of (34) should be $z_q(h^{\mathrm{old}}, k)$.

On p. 830, the exponential term in (45) should be $-0.5 \left[\frac{\|x_t - x_\tau\|^2}{h_x^2} + \frac{\|y_t - y_\tau\|^2}{h_y^2} \right]$.

On p. 831, in (51) θ_{f, j_*} should be $\theta_{f, j}$. That is, the subscript $_*$ should be removed.

On p. 834, in (64) "$f(y^{(1)}$ should be $f(y^{(1)})$. That is, ")" was missing.

On p. 835, the third line of (72) should be

$$\nabla_{\theta_y} H_t(\theta, k) = \sum_{\tau=1}^{t} \left(\frac{1}{t} - \gamma_t \right) \nabla_{\theta_y} \ln q(\hat{y}_\tau \hat{\xi}_\tau).$$

That is, $\left(\frac{1}{t} - \gamma_t^f \right)$ should be $\left(\frac{1}{t} - \gamma_t \right)$ without the superscript f

On p. 836, at Step 3) in (75), γ_t^f should also be γ_t.

On p. 837, in (76) there were three typos: 1) On the second line in the equation for $h_x^{\mathrm{new}\ 2}$, γ_x should be λ_x; 2) On the fourth line in the equation for $h_y^{\mathrm{new}\ 2}$, $k - 1$ should be k^{-1}; 3) On the last line, $\gamma_{t, \tau}$ should be

$$\gamma_{t, \tau} = e^{-0.5 \left(\frac{\|x_t - x_\tau\|^2}{h_x^2} + \frac{\|y_t - y_\tau\|^2}{h_y^2} \right)} / z_q(h^{\mathrm{old}}, k).$$

That is, h_x^2, h_y^2 were missed and k should not be a superscript.

On p. 840, the algorithm on the top-left corner should be labeled as (84). That is, on the last line of Step 3), the equation number (84) was mistyped as [see (84)].

On p. 845, in the third equation in (103), $k - 1$ should be k^{-1}, that is

$$h_y^{\mathrm{new}\ 2} \approx \frac{2h_{y,0}^2}{1 + \sqrt{1 + 4h_{y,0}^2 k^{-1} Tr[A^T \Sigma_x^{-1} A + C^T \Sigma_z^{-1} C + \Lambda^{-1}]}}.$$

[1]L. Xu, *IEEE Trans. Neural Networks*, vol. 12, pp 822-849, July 2001.