

Errata for the book
Information, Physics and Computation
by Marc Mézard and Andrea Montanari

Page 101: Eq. (5.22) should be replaced by

$$\varepsilon_0 = \varepsilon_* - \frac{1}{2N\varepsilon_*} \log \sqrt{\pi N}.$$

Page 302: Eq. (14.25) should be replaced by

$$H[\mu] = - \sum_{a \in F} \sum_{\underline{x}_{\partial a}} \mu_a(\underline{x}_{\partial a}) \log \mu_a(\underline{x}_{\partial a}) - \sum_{i \in V} (1 - |\partial i|) \sum_{x_i} \mu_i(x_i) \log \mu_i(x_i),$$

and Eq. (14.26) by

$$\mathbb{F}[\mu] = - \sum_{a \in F} \sum_{\underline{x}_{\partial a}} \mu_a(\underline{x}_{\partial a}) \log \left\{ \frac{\mu_a(\underline{x}_{\partial a})}{\psi_a(\underline{x}_{\partial a})} \right\} - \sum_{i \in V} (1 - |\partial i|) \sum_{x_i} \mu_i(x_i) \log \mu_i(x_i).$$

Page 304: In the pseudocode title ‘fraphical’ should be replaced by ‘graphical’.

Page 312: Eq. (14.54) should be replaced by

$$\mathbb{F}[b] = - \sum_{a \in F} \sum_{\underline{x}_{\partial a}} b_a(\underline{x}_{\partial a}) \log \left\{ \frac{\mu_a(\underline{x}_{\partial a})}{\psi_a(\underline{x}_{\partial a})} \right\} - \sum_{i \in V} (1 - |\partial i|) \sum_{x_i} b_i(x_i) \log b_i(x_i).$$

Page 345: In the caption of Fig. 15.5, ϵ_{BP} should be replaced by ϵ_d .

Page 385: Eq. (17.14) should be changed to

$$\begin{aligned} f^{\text{RS}} &= \frac{1}{2} \bar{\Lambda} \mathbb{E}_J \log \cosh \beta J - \frac{1}{2} \bar{\Lambda} \mathbb{E}_{J,h} \log \left\{ 1 + \tanh \beta J \tanh \beta h_1 \tanh \beta h_2 \right\} \\ &\quad + \mathbb{E}_k \mathbb{E}_{J,h} \log \left\{ \prod_{i=1}^k (1 + \tanh \beta J_i \tanh \beta h_i) + \prod_{i=1}^k (1 - \tanh \beta J_i \tanh \beta h_i) \right\}. \end{aligned}$$

Page 385: Eq. (17.14) should be changed to

$$f_{\text{para}}^{\text{RS}}(\beta) = \log 2 + \frac{1}{2} \bar{\Lambda} \mathbb{E}_J \log \cosh \beta J.$$

Page 437: In Fig. 19.3: $\nu_{i \rightarrow (ia)}$ and $\nu_{a \rightarrow (ia)}$ should have an hat.

Page 439: In Eqs. (19.27) and (19.28): g_i should be replaced by f_i and f_a should be replaced by \hat{f}_a .
