

Correction

Corrections to “On Adaptive Learning Rate That Guarantees Convergence in Feedforward Networks”

Laxmidhar Behera, Swagat Kumar, and Awhan Patnaik

The following errors were found in [1].

1) Equation (20) should be as follows:

$$\begin{aligned} \mathbf{W}(t+1) &= \mathbf{W}(t) + \left(\mu \frac{\|\tilde{y}\|^2}{\|\mathbf{J}_p^T \tilde{y}\|^2 + \epsilon} \right) (\mathbf{J}_p - \mathbf{D})^T \tilde{y} \\ &= \mathbf{W}(t) + \mu \frac{\|\tilde{y}\|^2}{\|\mathbf{J}_p^T \tilde{y}\|^2 + \epsilon} \mathbf{J}_p^T \tilde{y} - \mu_1 \frac{\|\tilde{y}\|^2}{\|\mathbf{J}_p^T \tilde{y}\|^2 + \epsilon} \ddot{\mathbf{W}}. \end{aligned} \quad (20)$$

The authors are with the Department of Electrical Engineering, Indian Institute of Technology, Kanpur, 208 016, India (e-mail: lbehera@iitk.ac.in).
Digital Object Identifier 10.1109/TNN.2008.925640

The term $\|\tilde{y}\|^2$ was missing on the second term of (20).

2) In (21), η' should be replaced with η in the second term. The complete equation becomes

$$\mathbf{W}(t+1) = \mathbf{W}(t) + \eta \mathbf{J}_p^T \tilde{y} - \mu' \ddot{\mathbf{W}}. \quad (21)$$

3) Equation (23) is given as follows:

$$\mu'_a = \lambda \frac{\|\tilde{y}\|^2}{\|\mathbf{J}_p^T \tilde{y}\|^2 + \epsilon}. \quad (23)$$

The term $\|\tilde{y}\|^2$ was missing earlier in this equation.

REFERENCES

- [1] L. Behera, S. Kumar, and A. Patnaik, “On adaptive learning rate that guarantees convergence in feedforward networks,” *IEEE Trans. Neural Netw.*, vol. 17, no. 5, pp. 1116–1125, Sep. 2006.