List of Errata

Haykin, S., *Neural Networks and Learning Machines, Third Edition*, Pearson International Edition, 2009, ISBN 0-13-129376-1

1. **Page** 81, in Eqn. (1.5), Replace $\mathbf{w}^T\mathbf{x}(n)$ by $\mathbf{w}^T(n)\,\mathbf{x}(n)$ for both cases.
2. **Page** 81, in Eqn (1.6), Replace $\mathbf{w}(n) - \eta\,(n)\mathbf{x}(n)$ by $\mathbf{w}(n) + \eta\,(n)\mathbf{x}(n)$ in the second line of Eqn (1.6).
3. **Page** 82-83, the proof of the perceptron convergence theorem deals only with training samples from H_1, and is thus incomplete. Please refer to my lecture notes for the details of the proof.
4. **Page** 92, line 4, Replace "20" by "2". The phrase "size of the weight vector" is ambiguous since w may or may not include the bias. If it includes the bias, then the size is 2+1=3.
5. **Page** 92, Replace Equation (1.39) with
$$J(w) = \frac{1}{2}\sum_{i=1}^{N} e^2(i) = \frac{1}{2}\sum_{i=1}^{N} (d(i) - w^T x(i))^2$$
6. **Page** 92, Replace Equation (1.40) with
$$\nabla J(w) = -\sum_{i=1}^{N} e(i)x(i)$$
7. **Page** 95, Replace the second line of Equation (1.42) with
$$= w(n) + \eta(n)\sum_{i=1}^{N} e(i)x(i)$$
8. **Page** 171, Equation (4.47) replace $w_{ji}(n-1)$ with $\Delta w_{ji}(n-1)$
9. **Page** 183, line -2, Replace " $/ = 0, 1, 2, ...$" by "$/ = 1, 2, ...$"
10. **Page** 272, Eq. (5.28), Replace subscript ranges $j = i$ to K by $j = 1$ to K
11. **Page** 273, Eq. (5.32), Replace $\mathbf{x}_1, \mathbf{x}_2, ..., \mathbf{x}_K$ by $\mu_1, \mu_2, ..., \mu_K$
12. **Page** 273, Eq. (5.33), Replace both occurrences of $\mathbf{x}_j$ by μ_j
13. **Page** 275, Eq. (5.44), Replace the denominator of the fraction, namely, $1 + \boldsymbol{\varphi}\,(n)\mathbf{R}^{-1}(n-1)\boldsymbol{\varphi}\,(n)$, by $1 + \boldsymbol{\varphi}^T(n)\mathbf{R}^{-1}(n-1)\boldsymbol{\varphi}\,(n)$
14. **Page** 277, line -7 (unnumbered equation) Replace $\mathbf{x}_1, \mathbf{x}_2, ..., \mathbf{x}_K$ by $\mu_1, \mu_2, ..., \mu_K$