

CORRECTION

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Correction to: Enhancing SVM for survival data using local invariances and weighting



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The original article can be found online at <https://doi.org/10.1186/s12859-020-3481-2>.

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Following publication of the original article [1], the authors identified errors in the equations. The correct equations are given below.

Equation (7)

$$S^z(t) = \frac{S^{(t+z)}}{S^{(t)}}$$

Equation (8)

$$\begin{aligned} & \underset{\mathbf{w}, \mathbf{w}^*, b, b^*}{\text{minimize}} && \frac{1}{2} (\|\mathbf{w}\|^2 + \gamma \|\mathbf{w}^*\|^2) + C \sum_{i=1}^n \xi_i \\ & \text{subject to} && \xi_i = (\langle \mathbf{w}^*, \mathbf{x}_i \rangle + b^*), && i = 1, \dots, n \\ & && y_i (\langle \mathbf{w}, \mathbf{x}_i \rangle + b) \geq 1 - (\langle \mathbf{w}^*, \mathbf{x}_i \rangle + b^*), && i = 1, \dots, n \\ & && (\langle \mathbf{w}^*, \mathbf{x}_i \rangle + b^*) \geq 0, && i = 1, \dots, n \end{aligned}$$

Equation (10)

$$\begin{aligned} & \underset{\mathbf{w}, b}{\text{minimize}} && \frac{1}{2} \|\mathbf{w}\|^2 \\ & \text{subject to} && y_i (\langle \mathbf{w}, \mathbf{x}_i \rangle + b) \geq 1, && i = 1, \dots, n \\ & && z_i^- \leq \langle \mathbf{w}, \mathbf{x}_i \rangle + b \leq z_i^+, && i = n + 1, \dots, m \end{aligned}$$

Re-expression of Equation (10)

$$\begin{aligned} & \underset{\mathbf{w}, \xi, \xi^-, \xi^+, b}{\text{minimize}} && \frac{1}{2} \|\mathbf{w}\|^2 + C \sum_{i=1}^n \xi_i + \tilde{C} \sum_{i=n+1}^m (\xi_i^- + \xi_i^+) \\ & \text{subject to} && y_i (\langle \mathbf{w}, \mathbf{x}_i \rangle + b) \geq 1 - \xi_i, && i = 1, \dots, n \\ & && z_i^- - \xi_i^- \leq \langle \mathbf{w}, \mathbf{x}_i \rangle + b \leq z_i^+ + \xi_i^+, && i = n + 1, \dots, m \\ & && \xi_i^- \geq 0, && i = 1, \dots, n \\ & && \xi_i^- \geq 0, && i = n + 1, \dots, m \\ & && \xi_i^+ \geq 0, && i = n + 1, \dots, m \end{aligned}$$



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Equation (11)

$$\begin{aligned} & \underset{\mathbf{w}, b}{\text{minimize}} && \frac{1}{2} \|\mathbf{w}\|^2 \\ & \text{subject to} && y_i (\langle \mathbf{w}, \mathbf{x}_i \rangle + b) \geq 1, && i = 1, \dots, n \\ & && z_i^- \leq \langle \mathbf{w}, \mathbf{x}_i \rangle + b \leq z_i^+, && i = n + 1, \dots, m \end{aligned}$$

Equation (13)

$$\begin{aligned} & \underset{\mathbf{w}, \xi}{\text{minimize}} && \frac{1}{2} \|\mathbf{w}\|^2 + C \sum_{i=1}^n W_i \xi_i \\ & \text{subject to} && y_i (\langle \mathbf{w}, \mathbf{x}_i \rangle + b) \geq 1 - \xi_i, && i = 1, \dots, n \\ & && \xi_i \geq 0, && i = 1, \dots, n \end{aligned}$$

Equation (16)

$$z_{x_i, j}(\mathbf{x}) = \frac{1}{\sigma^2} (x^j - x_i^j) \exp\left(-\frac{1}{2\sigma^2} \|\mathbf{x} - \mathbf{x}_i\|^2\right)$$

The original article has been corrected.

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Reference

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