



Correction to: Optimization of CVC shifting mode for hot strip mill based on the proposed LightGBM prediction model of roll shifting

Guangtao Li¹ · Dianyao Gong¹ · Junfang Xing² · Dianhua Zhang¹

Published online: 13 July 2021

© Springer-Verlag London Ltd., part of Springer Nature 2021

Correction to: The International Journal of Advanced Manufacturing Technology

<https://doi.org/10.1007/s00170-021-07395-7>

The original article contained symbol mistakes regarding formulas (10) and (11):

$$|x_i^j - \bar{x}^j| > 3\delta; i, \dots, n; j, \dots, m \quad (10)$$

Where \bar{x}^j and δ are the average value and standard deviation of j -th variable, n and m are the numbers of samples and variables, respectively.

$$R^2 = 1 - \frac{\sum_{i=1}^N (y_i - \hat{y}_i)^2}{\sum_{i=1}^N (y_i - \bar{y}_i)^2} \quad (11)$$

where N is the number of testing samples, y_i is the average value of measured shifting position, \hat{y}_i and \bar{y}_i are the predicted and measured shifting positions, respectively.

The correct symbols regarding formulas (10) and (11) are shown below:

$$|x_i^j - \bar{x}^j| > 3\delta; i, \dots, n; j, \dots, m \quad (10)$$

Where \bar{x}^j and δ are the average value and standard deviation of j -th variable, n and m are the numbers of samples and variables, respectively.

$$R^2 = 1 - \frac{\sum_{i=1}^N (y_i - \hat{y}_i)^2}{\sum_{i=1}^N (y_i - \bar{y}_i)^2} \quad (11)$$

where N is the number of testing samples, \bar{y}_i is the average value of measured shifting position, \hat{y}_i and y_i are the predicted and measured shifting positions, respectively.

The original article has been corrected.

The online version of the original article can be found at <https://doi.org/10.1007/s00170-021-07395-7>

✉ Guangtao Li
liguangtao1109@163.com

Dianyao Gong
gongdy@ral.neu.edu.cn

Junfang Xing
zhagangxing@163.com

Dianhua Zhang
zdhua@mail.neu.edu.cn

¹ The State Key Laboratory of Rolling and Automation, Northeastern University, Shenyang 110819, Liaoning, China

² HBIS Group Chengsteel Company, Chengde 067002, Hebei, China

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.