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Erratum

Erratum: Ly, H.-B., et al. Computational Hybrid Machine Learning Based Prediction of Shear Capacity for Steel Fiber Reinforced Concrete Beams. *Sustainability* 2020, *12*, 2709

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The authors would like to make the following corrections to the published paper [1]. The changes are as follows:

(1) To clearly indicate the source of the database, the authors wish to add a reference citation [46] in Section 3.1. Dataset Preparation on page 3.

Replacing the original version:

In this study, 463 experimental data on SFRC beams—including input variables (represented by geometry of beams, concrete mixtures, and fiber information) and an output variable (ultimate shear strength of the beams)—were gathered from the available literature. Table 1 summarizes the database, including the number of data collected in each reference and their percentages of proportion. Table 2 indicates the classification and proportion of each cross-section type, fiber type, and failure mode.

With:

In this study, 463 experimental data on SFRC beams—including input variables (represented by geometry of beams, concrete mixtures, and fiber information) and an output variable (ultimate shear strength of the beams)—were gathered from the available database recently constructed by Lantsoght [46] (the database is available in the public domain in xlsx file format). Table 1 summarizes the database, including the number of data collected in each reference and their percentages of proportion. Table 2 indicates the classification and proportion of each cross-section type, fiber type, and failure mode.

(2) To clearly indicate the source of existing equations, the authors wish to add an explanation in Section *5.2. Validation and Comparison of the Hybrid Models* on page 22.

Replacing the original version:

Validation of the hybrid models showed that both the hybrid ML models used in this study were good for predicting the USCs of SFRC beams, but that the NN-RCGA was slightly better than the NN-FFA. This is reasonable, as the NN-RCGA used the RCGA, which is robust and effective at reducing the bias and variation of the models [167]. Other published studies also confirmed the good capability of the RCGA in optimizing the parameters of the ML models [168,169]. A comparison of the results with previously published was works also conducted and is shown in Figure 11 and Table 9

(including the applications of all data). These equations are summarized in Table 10. The values gained between results obtained from the hybrid ML models and those from published works were calculated using Equation (4):

With:

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(3) Replacing the caption of Table 10:

Table 10. Empirical equations gathered from the available literature.

With:

Table 10. Empirical equations gathered from the available literature (mostly from compilation of Lantsoght [46]).

The authors and the Editorial Office would like to apologize for any inconvenience caused to the readers by these changes. The change does not affect the scientific results. The manuscript will be updated and the original will remain online on the article webpage.

References

1. Ly, H.-B.; Le, T.-T.; Vu, H.-L.T.; Tran, V.Q.; Le, L.M.; Pham, B.T. Computational Hybrid Machine Learning Based Prediction of Shear Capacity for Steel Fiber Reinforced Concrete Beams. *Sustainability* **2020**, *12*, 2709. [CrossRef]