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(57) Abstract :

DEVELOPMENT OF ARTIFICIAL INTELLIGENCE TECHNIQUES TO PREDICT THE ENERGY ABSORPTION IN FIBER REINFORCED SELF COMPACTING CONCRETE The present invention relates to development of artificial intelligence techniques to predict the energy absorption in fiber reinforced self compacting concrete. Unlike other machine learning methods such as ANN, the MGGP method provides insight into the physical process under consideration. MGGP enables the creation of a number of models that are defined by different symbolic expressions and that have different accuracy and complexity. As the present invention is a model that predicts the SC for different ages of concrete from 1 to 365 days, the achieved accuracy of the model can be considered satisfactory. The application of bootstrap aggregation led to a significant increase in accuracy compared to the individual ANN model. The expansion of the database could further improve the accuracy of the obtained model. Figure of abstract: FIG. 1

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