Construction Materials and Artificial Intelligence

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Message from the Guest Editors

Dear Colleagues,

Concrete is the most widely used building material in construction industries. It is characterized by high strength and good durability. In contrast, normal concrete exhibits poor deformability and low compression toughness, which affects its ability to withstand dynamic loads. In order to overcome these drawbacks, various admixtures/additives, such as nanomaterials (nanosilica, silica fumes, carbon nanotubes, etc.) crumb rubber, natural and synthetic fibers, and polymer materials, etc., have been incorporated into concrete to modify its properties. However, economical and efficient techniques are required to comprehensively evaluate concrete performance due to the variety in the compositions. Therefore, using artificial intelligent (AI) through the application of soft computing/classical models such as artificial neural network (ANNs), support vector machines (SVMs), multilinear regression (MLR), Adaptive Neuro-fuzzy Inference Systems (ANFISs), Extreme Learning Machines (ELMs), Gaussian regression processes (GPRs), and ensemble models, including Random Forest, XGBoost, etc., are employed.

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Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

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