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Abstract:


This paper proposes a neural network model using genetic algorithm for a model for the prediction of the damage condition of existing light structures founded in expansive soils in Victoria, Australia. It also accounts for both individual effects and interactive effects of the damage factors influencing the deterioration of light structures. A Neural Network Model was chosen because it can deal with 'noisy' data while a Genetic Algorithm was chosen because it does not get 'trapped' in local optimum like other gradient descent methods. The results obtained were promising and indicate that a Neural Network Model trained using a Genetic Algorithm has the ability to develop an interactive relationship and a Predicted Damage Conditions Model.