Abstract

The field of engineering is a creative one. The problems encountered in this field are generally unstructured and imprecise influenced by intuitions and past experiences of a designer. The conventional methods of computing relying on analytical or empirical relations become time consuming and labor intensive when posed with real life problems. To study, model and analyze such problems, approximate computer based Soft Computing techniques inspired by the reasoning, intuition, consciousness and wisdom possessed by a human beings are employed. In contrast to conventional computing techniques which rely on exact solutions, soft computing aims at exploiting given tolerance of imprecision, the trivial and uncertain nature of the problem to yield an approximate solution to a problem in quick time. Soft Computing being a multi-disciplinary field uses a variety of statistical, probabilistic and optimization tools which complement each other to produce its three main branches viz. , Neural Networks, Genetic Algorithms and Fuzzy Logic. The review paper presents the applications of two major Soft Computing techniques viz. , Artificial Neural Networks and Genetic Algorithms in the field of Civil Engineering, which to some extent has replaced the time consuming conventional techniques of computing with intelligent and time saving computing tools.
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Index Terms

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Keywords