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Authors:

Salama A. Mostafa

Mohd Sharifuddin Ahmad

M. A. Firdaus M.

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## Abstract

Soft computing is a field of computer science that studies the possibility of finding new models to deal with cognitive functions&apos; problems. Such problems can cover but are not limited to perception, systematic thinking, reasoning, object recognition, data mining, episodic memory, control, and knowledge management. The techniques that are normally utilized to establish such models are Fuzzy Logic (FL), Artificial Neural Network (ANN), and Genetic Algorithm (GA).

Nonetheless, compared to these techniques, Case-Based Reasoning (CBR) has the potential to host diverse combination of techniques in its architecture. However, constructing an efficient CBR system is still a controversial research issue. Many approaches based on Soft Computing (SC) methodology have been developed to serve multi-disciplinary and demanding engineering domains. This paper discusses some of these approaches that utilize various SC techniques in CBR systems. It proposes a new framework which can be adopted in many applications that requires Computational Intelligence (CI) solutions. The framework is built under the concepts of SC where FL, ANN and GA are exploited to perform soft case-based reasoning tasks. The paper&apos;s target is to encourage and help researchers in investigating the matter further

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### Index Terms

Computer Science

Pattern Recognition

**Keywords**

Computational Intelligence (ci) Soft Computing (sc) Case-based Reasoning (cbr)  
Fuzzy Logic (fl)  
Artificial Neural Network (ann)  
Genetic Algorithm (ga)