Abstract

The design of reversible systems significantly differs from their conventional counterparts therefore Evolutionary algorithms have been explored in the past for the purpose. In this work, the Enhanced Quantum inspired Evolutionary algorithm is employed for synthesis of various digital and benchmark circuits and its comparative performance analysis with other evolutionary algorithms as well as existing search and optimization techniques is presented. It is shown that the proposed enhanced Quantum inspired Evolutionary algorithm not only possesses a better exploration capacity but also performs faster than other techniques.

References


Index Terms

Computer Science  Circuits and Systems

Keywords

Evolutionary Algorithms, Quantum Inspired Evolutionary Algorithm, Reversible Circuit Synthesis, Quantum Circuits, Binary to Gray Code Converters.