

以遺傳演算法及運算樹作高性能混凝土強度建模

連立川, 葉怡成, 鄭明淵

資訊管理學系

資訊學院

icyeh@chu.edu.tw

摘要

This study used genetic algorithms combined with operation tree (GAOT) to produce self-organized formulae for the strength of High-Performance Concrete, and compared its accuracy and explanation ability with five existing methods, including back-propagation networks, regression analysis, macro-evolutionary genetic programming, grammar evolution genetic algorithms and genetic algorithms combined with regression analysis. The results showed that GAOT certainly could produce rather accurate self-organized formula, and it is more accurate than other methods only except for back-propagation networks.

關鍵字：genetic algorithms, operation tree, high-performance concrete, back-propagation networks.