Abstract

This paper presents improved Ant Colony Optimization (ACO) algorithms for data mining. The goal of the algorithms is to extract classification rules from data. The traditional Ant Colony Optimization algorithm is enhanced with genetic operators to develop improved ACO algorithms. The genetic operators like crossover, mutation are used to develop Ant Colony Optimization with Crossover (ACOC), ACO with mutation (ACOM), and ACO with crossover and mutation (ACOCM). The performance of the improved ACO algorithms is compared with traditional ACO. All the algorithms are applied on three different cancer datasets. The results showed that ACO with mutation gave good accuracy when compared with ACO, ACOC, and ACOCM.

References

53-66.

**Index Terms**

Computer Science  
Information Sciences

**Keywords**

Data Mining, Ant Colony Optimization, Classification, Crossover, Mutation.