

Discriminant Analysis as a Function of Predictive Learning to Select Evolutionary Algorithms in Intelligent Transportation System

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Abstract : In this paper, we present the use of the discriminant analysis to select evolutionary algorithms that better solve instances of the vehicle routing problem with time windows. We use indicators as independent variables to obtain the classification criteria, and the best algorithm from the generic genetic algorithm (GA), random search (RS), steady-state genetic algorithm (SSGA), and sexual genetic algorithm (SXGA) as the dependent variable for the classification. The discriminant classification was trained with classic instances of the vehicle routing problem with time windows obtained from the Solomon benchmark. We obtained a classification of the discriminant analysis of 66.7%.

Keywords : Intelligent Transportation Systems, data-mining techniques, evolutionary algorithms, discriminant analysis, machine learning

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