

# 基于花授粉算法的贝叶斯分类器优化研究

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**摘要:** 采用花授粉算法(FPA)对朴素贝叶斯分类器进行优化, 提出一种基于改进的花授粉算法的朴素贝叶斯分类器(NBC-IFPA)算法. 首先, 引入了黑名单机制使 FPA 能够跳出局部最优解; 其次, 引入随机扰动项, 增加种群多样性, 提高 FPA 寻优性能; 最后, 利用改进的 FPA 搜索全局最优属性权值, 并将其用于加权朴素贝叶斯模型中进行分类. 仿真结果表明, NBC-IFPA 算法具有更高的分类准确率.

**关键词:** 朴素贝叶斯; 花授粉算法; 黑名单机制; 随机扰动; 属性加权

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## Optimization of Bayesian Classifier Based on

Flower Pollination Algorithm

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**Abstract:** This paper, the flower pollination algorithm(FPA) is adopted to optimize Naive Bayes classifier, and the Naive Bayesian classifier algorithm based on improved flower pollination algorithm(NBC-IFPA) is proposed. Firstly, the blacklist mechanism is introduced to make the FPA jump out of the local optimal solution. Secondly, the random perturbation term is introduced to increase the diversity of the population and improve the searching ability of FPA. Finally, the improved FPA is used to search for the global optimal attribute weights and use them into the weighted naive Bayesian model for classification. The simulation results show that the NBC-IFPA algorithm has higher classification accuracy.

**Key words:** naive bayes; flower pollination algorithm; blacklist mechanism; random perturbation; attribute weighting

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