计算机工程与应用 2009 45 (27): 34-35 ISSN: 1002-8331 CN: 11-2127/TP

研究、探讨

精英自适应混合遗传算法及其实现

江 建

湖南文理学院 计算机学院，湖南 常德 415000

收稿日期 2009-3-6 修回日期 2009-5-25 网络版发布日期 2009-9-28 接受日期

摘要 传统的基本遗传算法在全局搜索和收敛速度上存在不足，而自适应遗传算法可以较好地控制算法的全局搜索能力和收敛速度。提出精英选择算法，将父辈和多个子辈组成“家庭”，选择家庭中的优秀个体进入遗传群体。将自适应思想与精英选择算法结合起来提出精英自适应混合遗传算法，保证了样本多样性，同时大大加快了收敛速度，采用一个多峰值函数验证了混合算法的性能。

关键词 遗传算法 自适应 精英选择

分类号 TP18

Elite adaptive hybrid genetic algorithm and its realization

JIANG Jian

School of Computer Sciences，Hunan University of Arts and Science，Changde，Hunan 415000，China

Abstract

Traditional basic genetic algorithm has deficiencies in global search and convergence speed，but adaptive genetic algorithm can better control algorithm global search ability and convergence speed.Propose the elite algorithm，fathers and multiple sub-group will be composed of“family”，select the family of outstanding individuals into the genetic groups.Combine adaptive thinking with elite selection algorithm，and propose the elite mixed adaptive hybrid genetic algorithm to ensure that the samples of diversity，at the same time greatly accelerate the convergence speed，using a multi-peak function to verify the performance of the hybrid algorithm.

Key words genetic algorithm adaptive elite choice

DOI: 10.3778/j.issn.1002-8331.2009.27.011

通讯作者 江 建 sixsquadeshuangxi@163.com