论文

建立在一般结构Gauss网络上的分布估计算法

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摘要

提出了一种建立在一般结构Gauss网络上的分布估计算法。一方面，它无需进行Gauss网络结构的学习，从而大大减少了计算量，另一方面，一般结构Gauss网络不是近似网络，因而可获得精度很高的联合概率密度函数。针对该网络，采用了一种无需计算条件概率密度函数的产生样本方法，有效地减少了网络参数学习的计算开销。实验结果表明，与已有建立在非一般结构Gauss网络上的高阶分布估计算法相比，本文算法具有更高的稳定性和更强的寻优能力。

关键词

[进化计算](#)　[分布估计算法](#)　[Gauss网络](#)

分类号

[TP391](#)

Estimation of Distribution Algorithm Based on Generic Gaussian Networks

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Abstract

Estimation of Distribution Algorithms (EDAs) available in continuous domains are based on non-generic Gaussian networks. The computational cost for learning this kind of networks is very great, moreover the low accuracy of Ihe joint pdf will be resulted because the greedy algorithm is used to learn the Gaussian networks. To overcome these disadvantages, an Estimation of Distribution Algorithm based on generic Gaussian Networks (GN-EDA) is presented. Ft leads to the low computational cost by no structure learning of Gaussian networks. In the meanwhile, a generic Gaussian network is not an approximate one, so the joint pdf is of high accuracy. Due to an effective sampling is adopted, the computational cost for parameters learning is great reduced. The experimental results show that GN-EDA achieves a more stable performance and a stronger ability in searching the global optima.

Key words

[Evolutionary computation](#)　[Estimation of distribution algorithm](#)　[Gaussian networks](#)

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