

Du, Tao; Zhang, Shensheng; Wang, Zongjiang

Learning Bayesian networks from data by particle swarm optimization. (English)

Zbl 1113.68435

J. Shanghai Jiaotong Univ., Sci. E-11, No. 4, 423-429 (2006).

Summary: Learning Bayesian network is an NP-hard problem. When the number of variables is large, the process of searching optimal network structure could be very time consuming and tends to return a structure which is local optimal. The Particle Swarm Optimization (PSO) is introduced for the solution of the problem of learning Bayesian networks and a novel structure learning algorithm using PSO is proposed. To search in directed acyclic graphs spaces efficiently, a discrete PSO algorithm especially for structure learning based on the characteristics of Bayesian networks is proposed.

MSC:

68T05 Learning and adaptive systems in artificial intelligence

Cited in **1** Document