



Tutorial Talk II: July 27

Introduction to Evolutionary Algorithms

Yu, Xinjie

Department of Electrical Engineering
Tsinghua University
Beijing 100084, China
Email: yuxj@tsinghua.edu.cn

Abstract:

Some interesting features of the new book "Introduction to Evolutionary Algorithms", which is written by Xinjie Yu and Mitsuo Gen and be published by Springer in 2010, will be illustrated, including covering nearly all the hot evolutionary-computation-related topics, referring to the latest published journal papers, introducing the applications of EAs as many as possible, and adopting many pedagogical ways to make EAs easy and interesting.

The contents and the consideration of selecting these contents will be discussed. Then the focus will be put on the pedagogical ways for teaching and self-study.

The algorithms introduced in the tutorial include constrained optimization evolutionary algorithms (COEA), multiobjective evolutionary algorithms (MOEA), ant colony optimization (ACO), particle swarm optimization (PSO), and artificial immune systems (AIS). Some of the applications of these evolutionary algorithms will be discussed.

Biography:

Dr. Xinjie Yu got his Ph.D. degree in 2001 at Tsinghua University and was a faculty of the Department of Electrical Engineering at Tsinghua University since then. He has been to MIT and Waseda University as visiting scholar in 2003 and 2009 respectively. His research interests include evolutionary algorithms and wireless energy transmission. He has published dozens of peer reviewed papers in international journals and conferences. Since 2002, he offered the course "Evolutionary Computation and Its Applications" at Tsinghua University.