



The University of New South Wales
Faculty of Engineering
School of Electrical Engineering & Telecom

Invited Lecture

Shuffled Frog-Leaping Algorithm and Its Applications

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Date: 25 February 2010, Thursday
Time: 11:00 a.m. – 12:00 noon
Venue: G3, Electrical Engineering Building

Abstract

Recently, a new meta-heuristic algorithm called Shuffled Frog-Leaping Algorithm (SFLA) is introduced, which aims to model and mimic the behavior of frogs searching for food laid on stones randomly located in a pond. It combines the advantages of the genetic-based memetic algorithm (MA) and the social behavior-based Particle Swarm Optimization (PSO) algorithm and has found applications in areas such as water resource distribution, multi-user detection in DS-CDMA Communication System, multivariable PID controllers and web document classification. In this talk, I will briefly overview some well-known heuristic algorithms such as the genetic algorithm, simulated annealing, ant colony optimization and particle swarm optimization, then focus on the introduction of the shuffled frog leaping algorithm, the useful hybridization with other techniques, and our preliminary results on its application in image processing, continuous function optimization and some discrete optimization problems.

Biography

Dr. Li is currently a professor in the department of Electronic Engineering, and also serves as the Dean of College of Information Engineering at Shenzhen University. Her research interest includes swarm intelligence and image processing. She is on the editor board of the Chinese Journal of Electronics, and in charge of several projects supported by the National/provincial Natural Science Foundation, got research fund for the Doctoral Program of Higher Education of China. She received her Ph.D. degree in Information Engineering from the Chinese University of Hong Kong in 1997, and the B.E. and M.E. in Electronic Engineering and Signal & Information Processing from Xidian University in 1989 and 1992, respectively.

******* ALL ARE WELCOME ***** For ENQUIRIES: Dr. Wei Zhang (Ph: 9385 4033)**