

Kolloquium Angewandte Informatik

Intelligent algorithms based on Fish School for optimization in complex domains

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Methods to deal with Multi-objective optimization problems (MOO) and Multimodal Optimization Problems (MMOP) are tough problems to compute especially in high dimensional spaces. In this talk we provide an overview on FSS that is a novel approach for searching in high-dimensional spaces taking into account behaviors from fish schools. As any other intelligent technique based on population, fish schools greatly benefit from the collective emerging behavior that increase mutual survivability. Broadly speaking, Fish-School Search (FSS) is composed of operators that can be grouped in the following categories feeding, swimming and breeding. Together these operators afford evoked computing behavior such as: (i) high-dimensional search abilities, (ii) automatic selection between exploration and exploitation, and (iii) self-adaptable guidance towards sought solutions. In the talk we are to explain the main ideas behind FSS. Additionally, we will briefly present a variation of FSS that is able to localize several solutions of MMOPs without too much hassle regarding parameter set up.

Termin: Dienstag, 01. Februar 2011, 15:45 Uhr

Ort: Englerstraße 11, 76131 Karlsruhe
Kollegiengebäude am Ehrenhof (Geb. 11.40), 2. OG, Raum 231
(Hinweise für Besucher: www.aifb.kit.edu/Allgemeines/Besucher)

Veranstalter: Institut AIFB, Forschungsgruppe Effiziente Algorithmen

Zu diesem Vortrag lädt das Institut für Angewandte Informatik und Formale Beschreibungsverfahren alle Interessierten herzlich ein.

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