

CONSTRAINT-HANDLING IN NATURE- INSPIRED OPTIMIZATION

Efrén Mezura-Montes

This tutorial presents a general view about constraint-handling techniques in nature-inspired optimization. Such need raises by the fact that nature-inspired algorithms, in their original versions, are designed to deal with unconstrained search spaces. Therefore, how to deal with feasibility information in those algorithms is an open problem. The tutorial starts with a set of important concepts to be used during the session. After that, the first constraint-handling techniques, mainly dominated by penalty functions, are presented. After that, the most recent efforts on constraint-handlers are detailed. Finally, a summary of the material and the current trends in nature-inspired constrained optimization are shown.