

Bio-Inspired Algorithms: An Introduction (minicourse)

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1 Objectives

This two-week minicourse aims to introduce the main concepts and algorithms related to nature-inspired computing.

2 Program

Overview of Bio-Inspired Algorithms. Collective Intelligence. Swarm Intelligence. Ant Colony Optimization. Artificial Immune Systems. Evolutionary Computing. Genetic Algorithms. Cellular Automata. Programming in Python.

Bibliography

- [1] Ballard, D. H. (1999). An Introduction to Natural Computation. MIT Press.
- [2] Dasgupta, D. (eds.) (1999). Artificial Immune Systems and Their Applications. Springer.
- [3] De Jong, K. A. (2006). Evolutionary Computation: A Unified Approach. MIT Press
- [4] Mitchell, M. (1998). An Introduction to Genetic Algorithms. MIT Press.
- [5] Segaran, T. (2007). Programming Collective Intelligence. O'Reilly Media.
- [6] Wolfram, S. (2002). A New Kind of Science. Wolfram Media.

CB02 / 4:00pm-6:00pm

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