Séminaires ISIR

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Stefano Nolfi

Campus Jussieu, 4 place Jussieu, Paris
Salle de réunion H20

Titre :   Exploring the Complex Adaptive System Nature of Behaviour and Cognition Through Evolutionary Robotics Experiments

Abstract :   In this talk I will claim that behavioural and cognitive capacities of embodied agents can be properly characterized as dynamical processes, originating from the agents/environmental interactions, displaying a multi-level and multi-scale organization. More specifically I will review a series of evolutionary robotics experiments that illustrate how the multi-level nature of these systems can enable: generalization processes that operate at the level of entire behaviours, the progressive expansion of the robots behavioural skills, and behavioural compositionality. Finally, I will discuss how affordance perception and selective attention might constitute important prerequisites for the development of multiple-behavioural capacities.

Short Bio :   Stefano Nolfi (http://laral.istc.cnr.it/nolfi/) is research director at the Italian National Research Council (CNR), director of the Laboratory of Autonomous Robots and Artificial Life of the Institute of Cognitive Sciences and Technologies (http://laral.istc.cnr.it/).
He is one of the founders of Evolutionary Robotics and the director of one of the most active research lab in this area. His research activities focus on the evolution and development of behavioural and cognitive skills in natural and artificial embodied agents (robots). He authored/co-authored more than 150 peer-reviewed scientific publications including a monograph book on Evolutionary Robotics published by MIT Press in 2000 (more than 1400 citations), and an edited book on Evolution of Communication and Language in Embodied Agents published by Springer Verlag in 2010.
He coordinated and participated to several research projects founded by international agencies including: the European Science Foundation Project on Hierarchical Heterogeneous Swarm (H2Swarm), the EU-FP7 Integrated Project on Transfer of Action and Language Knowledge in Robots (I-TALK), the EU-FP7 Strep Project on Towards Humanoid Robotic Swarms (SWARMANOID), EU-FP6 Integrated Project on Embodied and Communicating Agents (ECAgents), the EU-FP5 Strep Project on Swarms of Self-Assembling Artifacts (SWARM-BOT).

Sous la co-tutelle de

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