

The Horizons of Evolutionary Robotics

edited by Patricia A. Vargas, Ezequiel A. Di Paolo, Inman Harvey, and Phil Husbands

Evolutionary robotics (ER) aims to apply evolutionary computation techniques to the design of both real and simulated autonomous robots. *The Horizons of Evolutionary Robotics* offers an authoritative overview of this rapidly developing field, presenting state-of-the-art research by leading scholars. The result is a lively, expansive survey that will be of interest to computer scientists, robotics engineers, neuroscientists, and philosophers.

The contributors discuss incorporating principles from neuroscience into ER; dynamical analysis of evolved agents; constructing appropriate evolutionary pathways; spatial cognition; the coevolution of robot brains and bodies; group behavior; the evolution of communication; translating evolved behavior into design principles; the development of an evolutionary robotics-based methodology for shedding light on neural processes; an incremental approach to complex tasks; and the notion of “mindless intelligence”—complex processes from immune systems to social networks—as a way forward for artificial intelligence.

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An authoritative overview of current research in this exciting interdisciplinary field.