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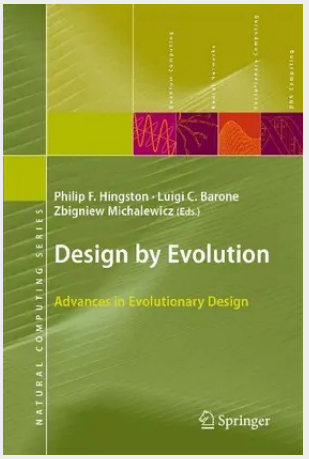
Design by Evolution

Advances in Evolutionary Design

Evolution is Nature’s design process. The natural world is full of wonderful examples of its successes, from engineering design feats such as powered flight, to the design of complex optical systems such as the mammalian eye, to the merely stunningly beautiful designs of orchids or birds of paradise. With increasing computational power, we are now able to simulate this process with greater fidelity, combining complex simulations with high-performance evolutionary algorithms to tackle problems that used to be impractical.

This book showcases the state of the art in evolutionary algorithms for design. The chapters are organized by experts in the following fields: evolutionary design and "intelligent design" in biology, art, computational embryogeny, and engineering. The book will be of interest to researchers, practitioners and graduate students in natural computing, engineering design, biology and the creative arts.

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