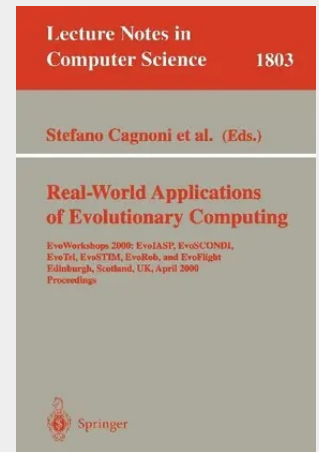


Real-World Applications of Evolutionary Computing

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The increasingly active field of Evolutionary Computation (EC) provides valuable tools, inspired by the theory of natural selection and genetic inheritance, to problem solving, machine learning, and optimization in many real-world applications. Despite some early intuitions about EC, that can be dated back to the invention of computers, and a better formal definition of EC, made in the 1960s, the quest for real-world applications of EC only began in the late 1980s. The dramatic increase in computer performances in the last decade of the 20th century gave rise to a positive feedback process: EC techniques became more and more applicable, stimulating the growth of interest in their study, and allowing, in turn, new powerful EC paradigms to be devised. In parallel with new theoretical results, the number of fields to which EC is being applied is increasing day by day, along with the complexity of applications and application domains. In particular, industrially relevant fields, such as signal and image processing, computer vision, pattern recognition, industrial control, telecommunication, scheduling and timetabling, and aerospace engineering are employing EC techniques to solve complex real-world problems.

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