Preface

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.

This volume contains the proceedings of EvoWorkshops 2000: six workshops on real-world applications of EC held concurrently on April 17th 2000 in Edinburgh. The workshops are: EvoIASP 2000, the second European Workshop on Evolutionary Computation in Image Analysis and Signal Processing, EvoSCONDI 2000, the first European Workshop on Evolutionary Computation in Systems, Control and Drives in Industry, EvoTel 2000, the second European Workshop on Evolutionary Telecommunications, EvoStim 2000, the first European Workshop on Evolutionary Scheduling and Timetabling, EvoRob 2000, the third European Workshop on Evolutionary Robotics, and EvoFlight 2000, the first European Workshop on Evolutionary Aeronautics.

EvoWorkshops 2000 was held in conjunction with two other major European events: EuroGP 2000, the European Conference on Genetic Programming, held on April 15th and 16th, and ICES 2000, the Third International Conference on Evolvable Systems: from Biology to Hardware, held from April 17th to 19th.

We would like to thank the members of the international program committees of the six workshops which included both EC researchers and researchers in the specific fields of interest and ensured the high quality of the papers.

April 2000   Stefano Cagnoni, Riccardo Poli, Yun Li,
                                        George Smith, David Corne, Martin Oates,
                                    Emma Hart, Pier Luca Lanzi, Egbert J.W. Boers,
                                        Ben Paechter, and Terence C. Fogarty

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