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Simulated Evolution and Learning

7th International Conference, SEAL 2008
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Proceedings

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Preface

This LNCS volume contains the papers presented at SEAL 2008, the 7th International Conference on Simulated Evolution and Learning, held December 7–10, 2008, in Melbourne, Australia. SEAL is a prestigious international conference series in evolutionary computation and learning. This biennial event was first held in Seoul, Korea, in 1996, and then in Canberra, Australia (1998), Nagoya, Japan (2000), Singapore (2002), Busan, Korea (2004), and Hefei, China (2006).

SEAL 2008 received 140 paper submissions from more than 30 countries. After a rigorous peer-review process involving at least 3 reviews for each paper (i.e., over 420 reviews in total), the best 65 papers were selected to be presented at the conference and included in this volume, resulting in an acceptance rate of about 46%.

The papers included in this volume cover a wide range of topics in simulated evolution and learning: from evolutionary learning to evolutionary optimization, from hybrid systems to adaptive systems, from theoretical issues to real-world applications. They represent some of the latest and best research in simulated evolution and learning in the world.

The conference featured four distinguished keynote speakers: Kalyanmoy Deb, Zbigniew Michalewicz, Xin Yao and Hussein Abbass. Kalyanmoy Deb's talk was on "Reliability-Based Optimization for Handling Uncertainty in Evolutionary Algorithms." Zbigniew Michalewicz's talk was on "The Future of Business Intelligence." Xin Yao's talk was on "Cooperative Coevolution for Large-Scale Evolutionary Optimization," while Hussein Abbass's talk was on "The Future of Intelligent Systems Is Non-Dominance." We were very fortunate to have such internationally renown research leaders giving talks at SEAL 2008, given their busy schedules. Their presence at the conference was yet another indicator of the importance of the SEAL conference series on the international research map.

SEAL 2008 also included five tutorials, which were free to all conference participants. Four tutorials were kindly provided by the four keynote speakers, and in addition, we were also fortunate to have Dipankar Dasgupta present a tutorial of a fascinating topic on "Immunological Computation." These five tutorials covered some of the hottest topics in evolutionary computation and learning and their applications, including "Recent Trends in Evolutionary Multi-Objective Optimization" (Kalyanmoy Deb), "Puzzle-Based Learning" (Zbigniew Michalewicz), "Evolving and Designing Neural Network Ensembles" (Xin Yao), "Getting Evolution to Solve Your Practical Problems" (Hussein Abbass), and "Immunological Computation" (Dipankar Dasgupta). They provided an excellent start to the four-day conference.

The success of a conference depends on its authors, reviewers and organizers. SEAL 2008 was no exception. We are very grateful to all the authors for their paper submissions and to all the Program Committee members for their outstanding

effort in reviewing the papers within a very tight schedule. We relied heavily upon a team of volunteers to keep SEAL 2008 running smoothly and efficiently. They were the true heroes working behind the scene. In particular, Donna-Lee Stanes and Dianne Nguyen from Monash University played an important role in supporting the running of the conference. We are most grateful to all the volunteers for their great efforts and contributions.

We would also like to thank our sponsor for providing all the support and financial assistance, including the ECML group, RMIT University; the Department of Computer Science and Software Engineering, University of Melbourne; School of Information Technology, Monash University; ARC Complex Open Systems Research Network; and the Air Force Office of Scientific Research, Asian Office of Aerospace Research and Development (AFOSR/AOARD).

September 2008

Xiaodong Li
Michael Kirley
Mengjie Zhang
David Green

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The 7th International Conference on Simulated Evolution And Learning (SEAL 2008) was organized and hosted by RMIT University, The University of Melbourne, and Monash University, Melbourne, Australia.

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Puzzle-Based Learning

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