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Artificial Life and Evolutionary Computation


14th Italian Workshop, WIVACE 2019
Rende, Italy, September 18–20, 2019
Revised Selected Papers

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Preface

This volume of *Communication in Computer and Information Science* contains the proceedings of WIVACE 2019, the XIV Workshop on Artificial Life and Evolutionary Computation. The event was successfully held on the Campus of the University of Calabria, Italy, during September 18–20, 2019. WIVACE aims to bring together researchers working in the field of artificial life and evolutionary computation to present and share their research in a multidisciplinary context. This year a special session focusing on cognitive systems and their applications was organized. The workshop provided a platform for academic and researchers to present papers addressing fundamental and practical issues in cognitive computing. Nowadays, we are crossing a new frontier in the evolution of computing and entering the era of cognitive systems. Whereas in the programmable era computers essentially processed a series of “if-then-else” formulas, cognitive systems learn, adapt, and ultimately hypothesize and suggest answers. Cognitive systems promise to tackle complexity and assist people and organizations in making decisions in different application fields such as healthcare, energy, retail, smart machines, smart buildings and cities, environmental modeling, education, banking, food science and agriculture, and climate change.

WIVACE 2019 received 31 submissions in total, out of which 16 were selected for publication in an extended version in this proceedings volume, after a single-blind review round performed by at least three Program Committee members, with an acceptance rate of 54% of the original submissions. Submissions and participants of WIVACE 2019 came from nine different countries, making WIVACE an increasingly international event, despite its origins as an Italian workshop. Following this ever-increasing international spirit, the future WIVACE edition will be held in Switzerland.

Many people contributed to this successful edition. The editors wish to express their sincere gratitude to all who supported this venture. In particular, we wish to thank all the authors who contributed to this volume. We would also like to thank reviewers who, as members of the Program Committee, not only assessed papers but also acted as session chairmen during the workshop.

We want to give special thanks to the invited speakers of both WIVACE 2019 and the special session on cognitive computing which, during the workshop, gave three very interesting and inspiring talks: Prof. Heiko Hamann from the University of Lübeck, Institute of Computer Engineering, Germany; Dr. Yulia Sandamirskaya from the Institute of Neuroinformatics, Neuroscience Center, Zurich University and ETH Zurich, Switzerland; and Prof. Giulio Sandini from Central Research Labs Genova - Italian Institute of Technology and University of Genoa, Italy.

Our gratitude also goes to SenSysCal, a spin-off of the University of Calabria, for giving its support to the workshop administration.

Finally, we acknowledge the helpful advice of the staff at Springer, who provided professional support through all the phases that led to this volume.

September 2019

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