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Engineering Applications of Neural Networks

15th International Conference, EANN 2014
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Proceedings



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Preface

The EANN conference promotes neural networks and associated techniques and the significant benefits that can be derived from their use. The conference is not only for reporting advances, but also for showing how neural networks provide practical solutions in a wide range of applications.

The 15th EANN conference was held at the Technical University in Sofia, Bulgaria, during September, 2014. The sponsors for the conference were the Technical University in Sofia, the International Neural Network Society (INNS), and the John Atanasoff Union of Automation and Informatics. EANN 2014 attracted delegates from 16 countries across the world: France, Greece, Cyprus, USA, Italy, UK, Brazil, Bangladesh, Turkey, Japan, China, Portugal, Bulgaria, Norway, Mexico, and Finland.

This volume includes the papers that were accepted for presentation at the conference. The papers demonstrate a variety of applications of neural networks and other computational intelligence approaches to challenging problems relevant to society and the economy. These include areas such as: environmental engineering, facial expression recognition, classification with parallelization algorithms, control of autonomous unmanned aerial vehicles, intelligent transport, flood forecasting, classification of medical images, renewable energy systems, intrusion detection, fault classification, and general engineering. All papers were subject to a rigorous peer-review process by at least two independent academic referees. EANN accepted approximately 50% of the submitted papers for full length presentation at the conference. The best ten papers will be invited to submit extended contributions for inclusion in a special issue of *Neural Computing and Applications* (Springer).

The following keynote speakers were invited and gave lectures on exciting neural network application topics:

- Professor Nikola Kasabov, Director and Founder, Knowledge Engineering and Discovery Research Institute (KEDRI), Chair of Knowledge Engineering, Auckland University of Technology New Zealand
- Professor Marley Vellasco, Head of the Electrical Engineering Department and the Applied Computational Intelligence Laboratory (ICA) at PUC-Rio, Brazil
- Professor John MacIntyre, Dean of the Faculty of Applied Sciences, Pro Vice Chancellor Director of Research, Innovation & Employer Engagement, University of Sunderland, UK
- Professor Jun Wang, IEEE Fellow, Faculty of Engineering, The Chinese University of Hong Kong
- Professor Xin Yao, IEEE Fellow, School of Computer Science at the University of Birmingham Director of the Centre of Excellence for Research in Computational Intelligence and Applications (CERCIA), UK

On behalf of the conference Organizing Committee, we would like to thank all those who contributed to the organization of this year's program, and in particular the Program Committee members.

September 2014

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