



Preface

The International Joint Conference on Neural Networks (IJCNN) took place in Gold Coast, Australia 18-23 June 2023. The IJCNN 2023 reflects the mission of the International Neural Networks Society INNS, a society established in 1987 as the first international, interdisciplinary and inclusive professional organisation focusing on theoretical and computational aspects of brain-inspired learning machines.

This year's IJCNN represented a significant milestone as we were marking the 80th anniversary of the conception of artificial neural networks (McCulloch and Pitts, 1943), a technology which has underpinned and revolutionised numerous fields, from artificial intelligence to healthcare, finance to robotics, through to the ways we communicate and learn, and beyond.

To celebrate this anniversary we have organised, in collaboration with Elsevier, a special INNS workshop that explored innovations and applications of deep learning and brought together academic researchers and industry professionals. The workshop was held online with presentations made available on demand throughout the IJCNN 2023 conference and with opportunities to post questions to the authors.

Around 190 articles, selected from the papers submitted to IJCNN and in the areas of Deep Learning Innovations and Applications, were considered for the INNS workshop track. Each paper was reviewed by at least 2 reviewers from the scientific committee of the IJCNN conference. The 66 papers which were selected for the presentation at the INNS workshop on Deep Learning Innovations and Applications are published as Open Access articles in these proceedings.

On behalf of the INNS workshop organisers, we would like to express our gratitude to all the authors, for their research insights and excellent contributions to the workshop, as well as to the scientific committee members for their constructive comments in the reviewing process.

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