

Advances in Intelligent Systems and Computing

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Thomas Jansen · Richard Jensen ·
Neil Mac Parthaláin · Chih-Min Lin
Editors

Advances in Computational Intelligence Systems

Contributions Presented at the 20th UK
Workshop on Computational Intelligence,
September 8–10, 2021, Aberystwyth,
Wales, UK

Editors

Thomas Jansen
Department of Computer Science
Aberystwyth University
Aberystwyth, UK

Richard Jensen
Department of Computer Science
Aberystwyth University
Aberystwyth, UK

Neil Mac Parthaláin
Department of Computer Science
Aberystwyth University
Aberystwyth, UK

Chih-Min Lin
Department of Electrical Engineering
Yuan Ze University
Taoyuan, Taiwan

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Preface

This volume contains the papers presented at the 20th UK Workshop on Computational Intelligence (UKCI 2021), held virtually by Aberystwyth University, September 8–10, 2021. This marks the 20th anniversary of UKCI, a testament to the increasing role and importance of computational intelligence (CI) and the continuing interest in its development. UKCI provides a forum for the academic community and industry to share ideas and experience in this field. UKCI 2021 is the only event in the workshop series to be held online since the inaugural event in 2001, due to the COVID-19 pandemic. EDMA 2021, the 4th International Engineering Data- and Model-Driven Applications Workshop, is also incorporated and held in conjunction with UKCI 2021.

Paper submissions were invited in the areas of fuzzy systems, neural networks, evolutionary computation, machine learning, data mining, cognitive computing, intelligent robotics, hybrid methods, deep learning, and applications of CI. In addition to UK institutions, UKCI 2021 attracted submissions from Canada, China, India, Italy, Japan, Thailand, and the USA, reflecting the global appeal of research in this area.

Fifty papers were accepted at the workshop, with each paper having been reviewed by at least two members of the program committee. Of these, 42 were accepted for presentation at UKCI 2021 (34 as regular papers and eight as short papers). Eight papers were accepted for presentation at EDMA. The papers in this volume have been divided into eight sections: fuzzy systems, evolutionary algorithms, neural networks/deep learning, intelligent robotics, data mining/machine learning, image analysis, health informatics, and engineering data- and model-driven applications.

There were three keynote talks given by established researchers in the field: Prof. Bernadette Bouchon-Meunier (CNRS National Center for Scientific Research), Prof. Emma Hart (Edinburgh Napier University), and Dr. Una-May O'Reilly (MIT Computer Science and Artificial Intelligence Lab). We would like to thank everyone who contributed to the success of UKCI 2021. We particularly thank the

members of the program committee for their reviews and recommendations, the keynote speakers, the authors and presenters, and the organizing committee. We are also grateful for the support provided by Aberystwyth University and Springer.

Neil Mac Parthaláin
Richard Jensen
Thomas Jansen
Qiang Shen



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