The 28th AIAI Irish Conference on Artificial Intelligence and Cognitive Science

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1 Introduction

Artificial Intelligence is at the forefront of science and technology, especially in the Republic of Ireland. It is an exciting time to be a scholar in this fascinating discipline of research. This is reflected in the record number of articles (71) submitted to this year's Irish Conference on Artificial Intelligence and Cognitive Science (AICS 2020), in its 28th edition. These proceedings collect the best scientific contributions and exciting research taking place in the Republic of Ireland in 2020. We are in a delicate and uncertain time, living during the COVID-19 pandemic that sometimes seems will never end and prevents us from meeting in person. However, this has not stopped scholars to work on a disparate range of theoretical topics such as deep, transfer, and reinforcement learning, explainability, ethics, and transparency of artificial intelligence as well as many applications in various domains such as in health care, stock market, online news, social media, and biology. While we cannot meet in person this year, the AICS community has proved to be adaptable making this edition the first ever virtual AICS conference, allowing everyone to participate while not having to leave their own homes.

The technical programme of the conference was built with scientific contributions that went through a rigorous peer-review process. The programme committee, composed of doctorates and professors working in Irish institutions from academia and industry, did a thorough and professional job in reviewing all the submitted manuscripts, providing authors with rich and constructive feedback. Each article has received at least 2 reviews with multi-section rates and

avenues of improvement. Reviewers had a bidding phase in which they could select preferred manuscripts. Conflict of interests of reviewers and authors, as well as their institutional affiliations, were taken into account. Submitted work was divided into 3 tracks: full papers, student papers, and nectar papers. Full papers were mainly empirical-based researchers, original contributions describing either basic research, interesting applications, or in-use experiences. Student papers were emerging works where the first author was a university student either at the masters or doctoral level. Nectar papers described significant results previously presented at other international conferences and authors were given the possibility to verbally present their work.

Prof. Francesca Toni, from Imperial College London, was the keynote speaker of this year's conference with an exciting talk on computational argumentation and explanations. The incessant progress in machine learning has led to the automatic formation of computational models, trained from data, that are highly explainable but suffer from a lack of inferential transparency, explainability, and interpretability. Therefore, explainable artificial intelligence, probably one of the fastest growing sub-disciplines of artificial intelligence, is aimed at tackling the above issues and either wrap computational models with explanations or learn self-explainable models, for example, by using neuro-symbolic reasoning approaches.

The end results of the AICS 2020 programme were of outstanding quality. We wish to express our gratitude and deepest appreciation to the 54 professional programme committee members, the many authors who submitted their contributions, as well as all the Irish institutions who supported us in delivering and running a successful national conference. With your high-quality involvement and devotion, AICS continues its tradition of excellence in the Republic of Ireland and active role in advancing the disciplines of artificial intelligence and cognitive science, informing the industry sector with original contributions, as well as the public with novel applications.

2   Acknowledgments

We are thankful for the support of the conference programme committee and our sponsors.

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