

The 29th AIAI Irish Conference on Artificial Intelligence and Cognitive Science

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<https://www.ucd.ie/>

² Lero: Science Foundation Ireland Research Centre for Software <https://lero.ie/>

³ The Insight Centre for Data Analytics <https://www.insight-centre.org/>

⁴ SFI Centre for Research Training in Machine Learning <https://www.ml-labs.ie>

⁵ VistaMilk: SFI Research Centre on Agri-Food and information communications
technology (ICT) <https://www.vistamilk.ie>

This year marked the second year that the AIAI Irish Conference on Artificial Intelligence and Cognitive Science (AICS)¹ was held virtually because of the Covid-19 pandemic. Once again, these extraordinary times did not prevent the submission of a high number of innovative contributions. Out of 44 submissions, we had 26 accepted papers this year. Over the course of the two-day conference, 17 full track, seven student track, and two nectar track papers were presented at the conference. Of course, none of this would have been possible without the commitment of our Program Committee of which there were 55 members. Amongst them were senior academics, postdoctoral researchers, and senior doctoral candidates. The hard work of the committee meant that all papers received at least two reviews.

A striking aspect of this years' conference was the sheer diversity of topics presented. In machine learning, we saw contributions from time series forecasting and classification, natural language processing, image segmentation and classification, and reinforcement learning; along with a wide array of applications in domains including medicine, agriculture, sign language recognition, space science, and cyber security. In cognitive science, we saw contributions in computer-assisted language learning, sentiment analysis, abstract reasoning, and cognitive robotics. Of all topics, the themes that came to the fore, in particular, were data augmentation and the use of synthetic data in machine learning.

There were two keynote talks by Prof. Karl Friston and Prof. Sophia Ananiadou. On the first day of proceedings, Prof. Friston gave a talk entitled “*Deep Inference*” discussing the mechanisms underlying behaviour and decision making in the brain, and how these relate to existing models of learning such as Bayesian and reinforcement learning strategies. Prof. Ananiadou opened the second day with a talk entitled “*Neural Information Extraction Methods and Applications*”

¹ <https://aics2021.ucd.ie/>

which covered recent research in named entity recognition, relation extraction, and event extraction along with applications in these areas.

AICS continues to be the leading venue for discussion of artificial intelligence research in Ireland, dedicated to high quality and novel research. We are very grateful to the authors for their innovative contributions to this year's conference. We are equally grateful to the program committee for their thoughtful and considered feedback to the authors. We would also like to thank the attendees for their insightful questions and discussions following each presentation. Lastly, we would like to express our gratitude to University College Dublin and the Artificial Intelligence Association of Ireland for their support in organising the conference.

Acknowledgments

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