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# AI 2020: Advances in Artificial Intelligence

33rd Australasian Joint Conference, AI 2020  
Canberra, ACT, Australia, November 29–30, 2020  
Proceedings

### *Editors*

Marcus Gallagher   
School of Information Technology  
and Electrical Engineering  
University of Queensland  
Brisbane, QLD, Australia

Nour Moustafa   
School of Engineering  
and Information Technology  
University of New South Wales  
Canberra, ACT, Australia

Erandi Lakshika   
School of Engineering  
and Information Technology  
University of New South Wales  
Canberra, ACT, Australia

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# Preface

This volume contains the papers presented at the 33rd Australasian Joint Conference on Artificial Intelligence (AI 2020). Due to the COVID-19 global pandemic, the conference was virtually held during November 29–30, 2020, and was hosted by the University of New South Wales, Canberra, Australia. This annual conference is one of the longest running conferences in artificial intelligence, with the first conference held in Sydney in 1987. The conference remains the premier event for artificial intelligence in Australasia, offering a forum for researchers and practitioners across all subfields of artificial intelligence to meet and discuss recent advances. AI 2020 received 57 submissions with 174 authors from 16 countries and 63 different institutions. Each submission was reviewed by at least three Program Committee (PC) members or external reviewers. After a thorough discussion and rigorous scrutiny by the reviewers and the dedicated members of the Senior PC, 36 submissions were accepted for publication as full papers.

AI 2020 had two keynote talks by the following distinguished scientists:

- Prof. Alice E. Smith, Auburn University, USA, on November 29, 2020.
- Prof. Chengqi Zhang, University of Technology Sydney, Australia, on November 30, 2020.

We thank the authors for submitting their research papers to the conference, preparing videos, and presenting their work online to cope with the consequences of the COVID-19 pandemic. We are grateful to authors whose papers are published in this volume for their cooperation during the preparation of the final camera-ready versions of the manuscripts. We especially appreciate the work of the members of the PC and the external reviewers for their expertise and tireless effort in assessing the papers within a strict timeline. We are very grateful to the members of the Organizing Committee for their efforts in the preparation, promotion, and organization of the conference, especially the general chairs for coordinating the whole event. We acknowledge the assistance provided by EasyChair for conference management.

To celebrate the diversity of talent working with, developing, and educating for emerging technology, the Women in Artificial Intelligence (WAI) committee worked in conjunction with IEEE Women in Computational Intelligence (WCI) and Women in Big Data (WiBD) to present three events. The panel event, Perspectives on Trust and Intelligence, brought together experts to discuss the diversity required to realize ethical and capable technology. The WAI/WCI keynote event focused on career experiences, and development tips for all emerging AI/CI professionals. Finally, the WAI/WiBD event provided an opportunity for anyone within AI, CI, or data to pitch their achievements and goals, whether working in research, industry, or academia.

Lastly, we thank Springer, the National Committee for Artificial Intelligence of the Australian Computer Society, and the University of New South Wales, Canberra, Australia, for their sponsorship, and the professional service provided by the Springer LNCS editorial and publishing teams.

October 2020

Marcus Gallagher  
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# Contents

## Applications

Multi-diseases Classification from Chest-X-ray: A Federated Deep Learning Approach . . . . .	3
<i>Sourasekhar Banerjee, Rajiv Misra, Mukesh Prasad, Erik Elmroth, and Monowar H. Bhuyan</i>	
Comparing Three Data Representations for Music with a Sequence-to-Sequence Model . . . . .	16
<i>Sichao Li and Charles Patrick Martin</i>	
Real-Time Decision Making for Train Carriage Load Prediction via Multi-stream Learning . . . . .	29
<i>Hang Yu, Anjin Liu, Bin Wang, Ruimin Li, Guangquan Zhang, and Jie Lu</i>	
Novel <i>Block</i> Diagonalization for Reducing Features and Computations in Medical Diagnosis . . . . .	42
<i>Tahira Ghani and B. John Oommen</i>	
A Novel Face Detector Based on YOLOv3 . . . . .	55
<i>Sabrina Hoque Tuli, Anning Mao, and Wanquan Liu</i>	
Reducing Traffic Congestion in Urban Areas via Real-Time Re-Router: A Simulation Study . . . . .	69
<i>Mauro Vallati and Lukáš Chrpá</i>	
A Mixed-Integer Programming Approach for Scheduling Roadworks in Urban Regions . . . . .	82
<i>Mauro Vallati and Lukáš Chrpá</i>	
A Tri-level Programming Framework for Modelling Attacks and Defences in Cyber-Physical Systems . . . . .	94
<i>Waleed Yamany, Nour Moustafa, and Benjamin Turnbull</i>	
Three-Way Framework Using Fuzzy Concepts and Semantic Rules in Opinion Classification . . . . .	110
<i>L. D. C. S. Subhashini, Yuefeng Li, Jinglan Zhang, and Ajantha S. Atukorale</i>	

## Evolutionary Computation

Minimising Cycle Time in Assembly Lines: A Novel Ant Colony Optimisation Approach . . . . .	125
<i>Dhananjay Thiruvady, Atabak Elmi, Asef Nazari, and Jean-Guy Schneider</i>	
An Implementation and Experimental Evaluation of a Modularity Explicit Encoding Method for Neuroevolution on Complex Learning Tasks . . . . .	138
<i>Yukai Qiao and Marcus Gallagher</i>	
A Parametric Framework for Genetic Programming with Transfer Learning for Uncertain Capacitated Arc Routing Problem . . . . .	150
<i>Mazhar Ansari Ardeh, Yi Mei, and Mengjie Zhang</i>	
Genetic Programming-Based Selection of Imputation Methods in Symbolic Regression with Missing Values . . . . .	163
<i>Baligh Al-Helali, Qi Chen, Bing Xue, and Mengjie Zhang</i>	
A Novel Mutation Operator for Variable Length Algorithms . . . . .	176
<i>Saskia Van Ryt, Marcus Gallagher, and Ian Wood</i>	
Improving Distribution-Based Discrete Particle Swarm Optimization Using Lévy Flight . . . . .	189
<i>Koya Ihara and Shohei Kato</i>	

## Fairness and Ethics

Non-monotonic Reasoning for Machine Ethics with Situation Calculus . . . . .	203
<i>Raynaldio Limarga, Maurice Pagnucco, Yang Song, and Abhaya Nayak</i>	
Building Fair Predictive Models . . . . .	216
<i>Jixue Liu, Jiuyong Li, Feiyue Ye, Lin Liu, Thuc Le, Ping Xiong, and Hong-cheu Liu</i>	
Can Lethal Autonomous Robots Learn Ethics? . . . . .	230
<i>Ajit Narayanan</i>	

## Games and Swarms

Designing Curriculum for Deep Reinforcement Learning in StarCraft II. . . . .	243
<i>Daniel Hao, Penny Sweetser, and Matthew Aitchison</i>	
Improving StarCraft II Player League Prediction with Macro-Level Features . . . . .	256
<i>Yinheng Chen, Matthew Aitchison, and Penny Sweetser</i>	

Train Small, Deploy Big: Do Relative World Views Permit Swarm-Safety During Policy Transplantation for Multi-Agent Reinforcement Learning Problems? . . . . .	269
<i>Bradley Fraser and Giuseppe Laurito</i>	
Autonomous Recognition of Collective Behaviour in Robot Swarms . . . . .	281
<i>Kathryn Kasmarik, Shadi Abpeikar, Md Mohiuddin Khan, Noha Khattab, Michael Barlow, and Matt Garratt</i>	
Exploring a Learning Architecture for General Game Playing . . . . .	294
<i>Alvaro Gunawan, Ji Ruan, Michael Thielscher, and Ajit Narayanan</i>	
Behavioural Equivalence of Game Descriptions . . . . .	307
<i>Dongmo Zhang</i>	
<b>Machine Learning</b>	
Classifiers for Regulatory Feedback Networks Using AB-Divergences . . . . .	323
<i>Zhuoyun Ao, Martin Oxenham, and Mark Nelson</i>	
Squashed Shifted PMI Matrix: Bridging Word Embeddings and Hyperbolic Spaces. . . . .	336
<i>Zhenisbek Assylbekov and Alibi Jangeldin</i>	
An Information-Theoretic Perspective on Overfitting and Underfitting . . . . .	347
<i>Daniel Bashir, George D. Montañez, Sonia Sehra, Pedro Sandoval Segura, and Julius Lauw</i>	
Self-organising Neural Network Hierarchy . . . . .	359
<i>Satya Borgohain, Gideon Kowadlo, David Rawlinson, Christoph Bergmeir, Kok Loo, Harivallabha Rangarajan, and Levin Kuhlmann</i>	
How to Encode Dynamic Gaussian Bayesian Networks as Gaussian Processes? . . . . .	371
<i>Mattis Hartwig and Ralf Möller</i>	
Activity-Independent Person Identification Based on Daily Activities Using Wearable Sensors . . . . .	383
<i>Seham Hussein, Michael Barlow, and Erandi Lakshika</i>	
Unsupervised One-Shot Learning of Both Specific Instances and Generalised Classes with a Hippocampal Architecture . . . . .	395
<i>Gideon Kowadlo, Abdelrahman Ahmed, and David Rawlinson</i>	
Online Semi-supervised Learning in Contextual Bandits with Episodic Reward . . . . .	407
<i>Baihan Lin</i>	

An Elastic Gradient Boosting Decision Tree for Concept Drift Learning . . . . 420  
*Kun Wang, Anjin Liu, Jie Lu, Guangquan Zhang, and Li Xiong*

Transfer of Pretrained Model Weights Substantially Improves  
Semi-supervised Image Classification . . . . . 433  
*Attaullah Sahito, Eibe Frank, and Bernhard Pfahringer*

A Comparison of Machine Learning Methods for Cross-Domain  
Few-Shot Learning . . . . . 445  
*Hongyu Wang, Henry Gouk, Eibe Frank, Bernhard Pfahringer,  
and Michael Mayo*

Analysis and Prediction of Player Population Changes in Digital Games  
During the COVID-19 Pandemic. . . . . 458  
*Dulakshi Wannigamage, Michael Barlow, Erandi Lakshika,  
and Kathryn Kasmarik*

Correction to: A Tri-level Programming Framework for Modelling  
Attacks and Defences in Cyber-Physical Systems . . . . . C1  
*Waleed Yamany, Nour Moustafa, and Benjamin Turnbull*

**Author Index . . . . . 471**