WESTERN SYDNEY UNIVERSITY

School of Computer, Data and Mathematical Sciences

HDR Seminar 34

Program

28 November 2023

12:00pm - 12:15pm	**Briefing:** Dr Kenan Matawie **Topic:** Policy updates and announcements
12:15pm - 12:30pm	**Internal Speech** **Topic:** Unlocking Project Potential: Discovering the Transformative Power of Data **Speaker:** Dr Kenan Matawie, Western Sydney University
12:30pm - 12:55pm	**Invited Speech** **Topic:** Genomic data analysis for decision making **Speaker:** Prof. Daniel Catchpoole, Children Hospital at Westmead and UTS
12:55pm - 01:10pm	**Invited Speech** **Topic:** The MiCRO negotiation Strategy - why machine learning is not always the answer **Speaker:** Dr Dave de Jonge, Artificial Intelligence Research Institute (IIIA-CSIC) in Barcelona, Spain
01:10pm - 1:15 pm	**Student Presentation** **Topic:** Trust in Medical XAI **Speaker:** Zhonglin (Jolin) Qu (PhD Candidate 18885806) **Supervisory Panel:** A/Prof. Quang Vinh Nguyen, Prof. Simeon Simoff, Prof. Paul Kennedy, Prof. Daniel Catchpoole
01:15pm - 1:20 pm	**Student Presentation** **Topic:** Enhancing AI with Integrated Data Strategies for Peak Performance **Speaker:** Rani Adam (PhD Candidate 22104050) **Supervisory Panel:** A/Prof. Quang Vinh Nguyen, Prof. Simeon Simoff, Prof. Paul Kennedy, Prof. Daniel Catchpoole
1:20pm - 1:45pm	**Panel discussion**
1:45pm - 2:00pm	**Closing Remarks**

Venue: PS-EA.1.04

Meeting ID: 821 9526 9189
Password: 117830
https://uws.zoom.us/j/82195269189?pwd=VVJQTDcyTTZVUktsaHBTSStQMmVBQT09<https://protect-au.mimecast.com/s/ZL4GCJyBv1c9VjEzSV3eCd?domain=uws.zoom.us>
Next Event: Monday 04/12

Unlocking Project Potential: Discovering the Transformative Power of Data

Speaker: Dr Kenan Matawie

Abstract:
In this talk, I will explore how data can significantly impact research projects, using a recent Ph.D. project as an illustrative example. I will investigate practical ways to uncover hidden possibilities in your data, demonstrating how the data evolved during a recent Ph.D. project and led to interesting findings. The focus is on highlighting the crucial role of data at every step of the project, from its initial stages to the development of sophisticated models. The presentation will offer simple tips on using data effectively and ethically, drawing inspiration from real-world examples to illustrate how the power of data can reveal new opportunities and enhance the success of research projects.

Biography:
Dr Kenan Matawie completed his PhD and MStats at University of New South Wales. He Joined UWS in 2000. Kenan is an academic statistician and data scientist with an interest in the application of statistics, particularly statistical modelling, advanced data analysis and developing statistical methods motivated by real-world problems. He has also supervised more than 18 PhD and MSc research students. Most of Dr Matawie's research and consulting work primarily stem from applications in health, business, management, psychology, and information technology. He has published his research in over 83 journals, books, book chapters, and conferences,

Kenan actively engages in professional societies, international scientific committees, and journal publication reviews. He served as an executive committee member (2003-2006) and as an editorial advisor for the International Statistical Modelling Society conference and journal till 2020. Additionally, he was the chair/coordinator for the 20th International Conference on Statistical Modelling at WSU.

Genomic data Analysis for decision making

Speaker: Prof. Daniel Catchpoole, Children Hospital at Westmead and UTS

Abstract:
TBA

Biography:
Prof Daniel Catchpoole is an expert with over 20 years of lab-based research experience in the area of childhood cancer research, tissue pathology, genomics and cell biology. He is expert in building the necessary frameworks essential for active translational research activity in cancer.
Prof Catchpoole has built a strong record for professional networking bringing groups into collaborative arrangements around singular themes and opportunities from across the nation. His leadership in these and other areas has been recognised across the translational research disciplines and has contributed to a number of committees at local, state and national levels.
Prof Catchpoole is an innovative and strategic thinker, creating novel but productive projects which enhance our understanding of translational research in paediatric cancer.

The MiCRO negotiation Strategy - why machine learning is not always the answer

Speaker: Dr Dave de Jonge

Abstract:

Automated negotiation is the subfield of artificial intelligence that aims to enable computers to negotiate with each other or with humans. Most state-of-the-art algorithms for automated negotiation rely heavily on highly sophisticated machine learning techniques to predict how far the negotiation partner is willing to concede, and then aim to exploit that knowledge.
However, I have recently invented a new algorithm, called MiCRO, which does not use any form of machine learning. While the simplicity of this algorithm is almost absurd, it turns out that it outperforms almost every other existing negotiation algorithm. Furthermore, I can mathematically prove that, under certain conditions, it is even a theoretically optimal negotiation strategy.
From this, I conclude that we sometimes focus so much on machine learning, that we tend to overlook much simpler solutions.

Biography:
Dave de Jonge received his PhD in artificial intelligence in 2015 at the Artificial Intelligence Research Institute (IIIA-CSIC) in Barcelona, Spain, under supervision of Carles Sierra. After finishing his PhD he moved to Australia to work as a postdoc and later as associate lecturer at Western Sydney University. In 2018 he returned to the IIIA-CSIC in Barcelona.
His expertise is in the topic of automated negotiation and his research focuses on complex negotiation scenarios where the number of possible deals is astronomically large and where calculating the utility value of even a single deal is already a computationally complex task. His algorithms combine negotiation techniques with logic, game theory, general game playing, and constraint optimization and he has applied this to artificial test cases such as the game of Diplomacy, as well as to real-world industrial vehicle routing problems. He has published papers with several researchers from WSU, such as Dongmo Zhang, Simeon Simoff, Tomas Trescak and Jianglin Qiao.
Dave de Jonge won several awards, such as the first prize in the Computational Diplomacy Challenge at the ICGA Computer Olympiad in 2015, the second prize at the Automated Negotiating Agents competition in 2014 and in 2023, and the best paper award at the Australasian Joint Conference on AI in 2016. Furthermore, he was the organizer of the Diplomacy League at the Automated Negotiating Agents Competition of 2017, 2018 and 2019.

Trust in the Medical XAI

Speaker: Zhonglin (Jolin) Qu

Abstract:
There are lots of Artificial Intelligence (AI) applications in the medical domain. Neither humans nor AI is perfect, we need to align human trust with the model's actual capabilities and recognise when to rely on the model predictions. To create good human-AI collaborative performance, explainable AI is needed. The AI interpretability is not about understanding all bits and bytes of the model for all data points, it is about knowing enough for your goal and gaining user trust or fairness.

Enhancing AI with Integrated Data Strategies for Peak Performance

Speaker: Rani Adam

Abstract:
Artificial Intelligence (AI) has revolutionised industries, providing organisations with the ability to make data-driven decisions, automate tasks, and gain valuable insights. However, the effectiveness of AI systems is often hindered by fragmented data, which resides in silos and is difficult to access and analyse. To address this challenge, integrated data strategies are crucial for unlocking the full potential of AI.