



Australian Artificial Intelligence Institute

The Australian Artificial Intelligence Institute

The Australian Artificial Intelligence Institute (AAIL) is a world-leading research institute in artificial intelligence, with an ambition to develop theoretical foundations and advanced algorithms for artificial intelligence, and to drive significant progress in related areas like computational intelligence, computer vision, network analysis, data science, machine learning, pattern recognition, bioinformatics, brain-computer interface, social robotics, and intelligent information systems.

In Australia, AAIL has become the largest research hub in the field of artificial intelligence. AAIL was transformed from the Centre of Artificial Intelligence (CAI) to an institute in 2020, based on its highly successful broad-scope AI research. Incorporating eight research labs, AAIL currently has 34 academic staff. Among its staff, the institute boasts four Distinguished Professors, one ARC Laureate Fellow, one FTSE

Fellow, two FIEEE Fellows, one highly cited researcher, three future fellows and five DECRAAs, ten postdocs, and more than 190 PhD students.

Over the past three years, AAIL members have won 23 Australian Research Council (ARC) projects, including ARC Discovery, Linkage, Future Fellow, Laureate Fellow and Discovery Early Career Research Awards, together with 50 national and international industry projects.

Since its inception as CAI in March 2017, AAIL staff have published more than 1000 papers, with over 450 of those being in high reputational international journals. Furthermore, AAIL core members have delivered more than 20 keynote presentations in national and international conferences, and AAIL students have received several best paper awards from leading journals and conferences, including national and international awards.



34
STAFF

190
PHD STUDENTS

10
POST DOCS

8
RESEARCH LABS



Members of the Australian Artificial Intelligence Institute

Launch of the Australian Artificial Intelligence Institute



Professor Michael Blumenstein, Associate Dean (Research Strategy and Management) began proceedings as Master of Ceremonies to welcome participants to AAll's Virtual Launch

The Australian Artificial Intelligence Institute (AAll) was officially launched at a virtual forum on Friday 7 August 2000 by the Hon. Karen Andrews, Minister for Industry, Science and Technology, Australia.

Professor Michael Blumenstein (ADR Research Strategy and Management, FEIT) acted as the Master of Ceremonies for the online event, which was attended by more than 150 local and international guests from universities, government and industry to support AAll's promotion from a Centre to an Institute.

Distinguished Professor Jie Lu, the Director of the AAll gave a welcome speech highlighting the the centre of Artificial Intelligence (CAI)'s outstanding achievements over the last three years and the significant research impact that over 200 CAI staff and students are proud of. She particularly outlined the vision, goals and strategies of the AAll institute and mentioned the inauguration of her ARC Laureate Fellowship Award.

The welcome speech was followed by an address by the Hon. Karen Andrews MP (Minister for Industry, Science and Technology), who discussed Australia's opportunities with AI and the government's plans to develop AI capabilities and capacity in Australia.



"Our goal is to make AAll a first class institute in the area of AI in the world by creating an exeptional research environment; recruiting outstanding researchers; produgcing high impact research; collaborating with AI researchers and practicers nationally and internationally; and nurturing a culture of innovation,"

DISTINGUISHED PROFESSOR JIE LU
Director, Australian Artificial Intelligence Institute
University of Technology Sydney



"As a government we are looking to artificial intelligence as a means to growing our Australian economy to developing our industries and to truly become world leading in a number of our sectors,"

HON KAREN ANDREWS
Minister for Industry, Science and Technology



“I have no doubt that AAll will produce excellent research in a range of areas including healthcare, transportation, agriculture, telecommunications, and all will have real and concrete benefits for Australia,”

PROFESSOR ATTILA BRUNGS
Vice-Chancellor and President
University of Technology Sydney



“It’s more than just a name. Its real recognition that UTS is the national leader in this critical area for the future and making our mark on the world stage,”

PROFESSOR KATE MCGRATH
Deputy Vice-Chancellor (Research)
University of Technology Sydney



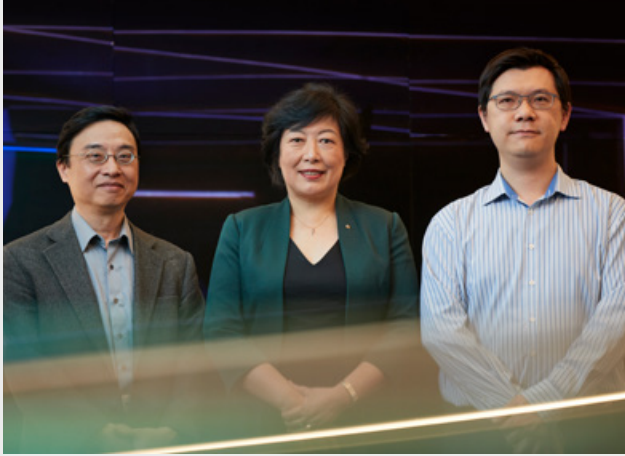
Professor Branka Vucetic, ARC Laureate Fellow
University of Sydney

The Vice Chancellor and President of UTS, Professor Attila Brungs, then spoke to the audience about AI research at UTS and the achievements that the University has made in this area, and the future impact that AI research will have. He then honored Distinguished Professor Jie Lu’s career at UTS and congratulated her on the achievement of being awarded the ARC Laureate Fellowship.

The next speech was given by the Deputy Vice-Chancellor Research UTS, Professor Kate McGrath, who highlighted the milestone of the evolution of the discipline of AI at UTS making the change from an AI research Centre to an AI research Institute.

To close the formal speeches, Professor Branka Vucetic (ARC Laureate Fellow, USyd), paid tribute to Jie Lu for her outstanding achievements in research and education, as has been recognized by her ARC Laureate Fellowship award.

Launch of the Australian Artificial Intelligence Institute



From left: Distinguished Professor CT Lin, Distinguished Professor Jie Lu and Professor Ivor Tsang, Australian Artificial Intelligence Institute University of Technology Sydney

AI Panel Discussion

The second half of the program featured a panel discussion on current impacts and opportunities of artificial intelligence in education, industry and our society on a national and international scale.

Panel members comprised of Distinguished Professor Chengqi Zhang, Mr Richard Hurley, Distinguished Professor Wanlei Zhou and Distinguished Professor Jie Lu. The forum concluded with an open discussion by all panellists on the regulation of AI in Australia.

The AAll opening ceremony concluded with images of AAll activities and a congratulatory video compilation of over 50 students from AAll, collaborators from other universities and companies in Australia and other countries.



The development of AI in Australia

“AI has a real impact on the real world in recent years such as the health, education, finance, transportation, industry agriculture, trading and entertainment; and it will impact on us more and more,”

DISTINGUISHED PROFESSOR CHENGQI ZHANG

Chair, Australian AI Committee and Associate Vice President (Research Relationships China) University of Technology Sydney



Ethical considerations of AI in government policies and programs

“Our role is about developing national policies. It’s not about looking at the experience of any individual, and so rest assured, AI is not being used for purposes that might expose individuals privacy of confidentiality,”

MR RICHARD HURLEY

Assistant Secretary of the Data Analytics Branch,
Health Economics and Research Division,
Australian Government Department of Health



Challenges and opportunities of AI in education

“Many of [the high school leavers] do not have adequate mathematical skills or STEM training. I think that’s one of the problems in Australian high school education”

DISTINGUISHED PROFESSOR WANLEI ZHOU

Head of School of Computer Science,
Faculty of Engineering and IT,
University of Technology Sydney



Challenges and opportunities of AI in academia and industry

“What AAIL and the university community can provide, is top and innovative research that can translate to industry, to augment what they do, and in fact, to bring things that are not just off the shelf but something that is new to world.”

DISTINGUISHED PROFESSOR JIE LU

Director, Australian Artificial Intelligence Institute
University of Technology Sydney

Team of world experts

“As the biggest artificial intelligence institute in Australia, AAIL has a team of world class researchers undertaking programs in major fronts of artificial intelligence.”

JIE LU
Director



**DISTINGUISHED PROFESSOR
JIE LU**
Director

Research Area: Computational Intelligence and machine learning-based decision-making

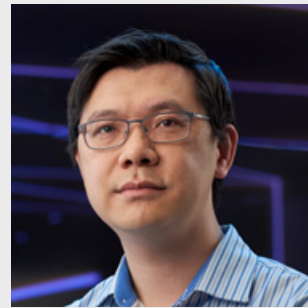
Distinguished Professor Jie Lu is an ARC Laureate Fellow and internationally renowned scientist in the areas of computational intelligence, specifically in fuzzy transfer learning, concept drift, learning-based decision support systems and recommender systems. She is also the Associate Dean in Research Excellence in the Faculty of Engineering and Information Technology at UTS. Jie is a fellow of IEEE and fellow of IFSA. She has published six research books and 400 papers in refereed journals and conference proceedings; she serves as Editor-In-Chief for *Knowledge-Based Systems* and *International Journal on Computational Intelligence Systems*.



**DISTINGUISHED PROFESSOR
CHIN-TENG LIN**
Co-Director

Research Area: Brain Computer Interfaces

Dr Chin-Teng Lin received his Bachelor of Science from the National Chiao-Tung University (NCTU), Taiwan in 1986, and a Masters and Ph.D. in electrical engineering from Purdue University, USA in 1989 and 1992, respectively. He is currently a Distinguished Professor of the Faculty of Engineering and Information Technology, and Co-Director of the Australian Artificial Intelligence Institute at UTS. His research interests include computational intelligence, fuzzy neural networks (FNN), cognitive neuro-engineering, brain-computer interface, multimedia information processing, machine learning, robotics, and intelligent sensing and control.



PROFESSOR IVOR TSANG
Research Director

Research Area: Machine Learning

Ivor W Tsang is an ARC Future Fellow and Professor of Artificial Intelligence at UTS and the Research Director of AAIL. His research focuses on transfer learning, feature selection, learning from noisy supervision, and big data analytics for data with extremely high dimensions. He has received various prizes such as the International Consortium of Chinese Mathematicians Best Paper Award in 2019, Best Student Paper Award at CVPR 2010 and the 2014 IEEE Transactions on Multimedia Prize Paper Award. He serves as a Senior Area Chair/Area Chair for various conferences, and serves on various editorial boards for journals.



**DISTINGUISHED PROFESSOR
CHENGQI ZHANG**

Research Area: Data Science

Chengqi Zhang is the Associate Vice President (Research Relationships China) at UTS. He has been the Chairman of the Australian Computer Society National Committee for Artificial Intelligence since November 2005, and the Chairman of IEEE Computer Society Technical Committee of Intelligent Informatics (TCII) since June 2014. In August 2019, he was appointed the general Chair for IJCAI 2024. He is a worldwide recognized research leader in the areas of data mining and machine learning.



**PROFESSOR
MICHAEL BLUMENSTEIN**

Research Area: Pattern Recognition

Professor Blumenstein is the Associate Dean (Research Strategy and Management) in FEIT at UTS. Prior to this, Michael was the Head, School of Software. Michael is a nationally and internationally recognised expert in the areas of automated Pattern Recognition and Artificial Intelligence, and his current research interests include Video-based Object Detection, Document Analysis, Signature Verification as well as Multi-Script Text Identification and Recognition.



PROFESSOR YI YANG

Research Area: Computer Vision

Yi Yang is a professor with AAIL. Yi received his PhD from Zhejiang University in 2010, and was a postdoctoral researcher at Carnegie Mellon University before coming to UTS. Yi is a stream leader for Semantic Indexing of Large Scale Video Archives for the Data to Decisions CRC. His research encompasses Computer Vision, Machine Learning and Multimedia.



PROFESSOR PAUL KENNEDY

Research Area: Bioinformatics

Paul Kennedy has a PhD (Computing Science) and joined UTS in 1999. He is Director of the BDS Lab in AAIL and Head of Discipline (Data Analytics and Artificial Intelligence) in the School of Software. His research interests are in data analytics of biomedical data, mainly collaborating with paediatric cancer researchers, as well as developing bioinformatics pipelines to facilitate animal vaccine discovery and text and social network analytics.



PROFESSOR YING ZHANG

Research Area: Network Analytics

Ying Zhang is an ARC Future Fellow (2017-2021). He is the head of the Large-Scale Network Analytics Group at the Australian Artificial Intelligence Institute (AAIL). His research focuses on efficient query processing and analytics on Big Data, especially multi-dimensional data, streaming data, and graphs. He has been the recipient of a total of six ARC grants. A/Prof Zhang has also been an associate editor of IEEE Transaction on Knowledge and Data Engineering since 2016.



PROFESSOR SHIPING WEN

Research Area: Neuromorphic Computing

Shiping Wen's research interests include memristor-based neural network, deep learning, computer vision, and their applications in video surveillance and medical informatics. His research is at the forefront of spearheading the next generation of artificial intelligence based on neuromorphic computing, which is expected to have a monumental impact on many aspects of industry and economy including neural chips, self-driving cars, and automated medical diagnosis. Shiping also has highly cited publications.

Vision

To achieve excellence and innovation in sustainable and comprehensible artificial intelligence by developing powerful theoretical foundations, innovative technologies and application systems, and leading knowledge advancement that translates into significant social and economic impacts.

OBJECTIVE 1

Undertake highly innovative and challenging research to achieve international standing and lead advancements in knowledge in the field of artificial intelligence.

OBJECTIVE 2

Develop new and maintain existing networks with major national and international AI centres to achieve global competitiveness and gain high recognition.

OBJECTIVE 3

Build AAll's capacity in main key AI areas by attracting and retaining researchers of high international standing, as well as the most promising research students.

OBJECTIVE 4

Provide high quality HDR and ECR training environments and research excellence culture for the next generation of researchers in AI.

OBJECTIVE 5

Generate significant impact on the wider community through interaction with institutes, governments, industry, both locally and internationally.



Awards

These researchers have received prestigious national and international awards from 2017-2019

CHIN-TENG LIN

Winner of the IEEE Fuzzy Systems Pioneer Award, IEEE Computational Intelligence Society (CIS) 2017.

Received for contributions in developing fuzzy neural networks and their real-world applications.

MARY-ANNE WILLIAMS

2019 Google Faculty Research Award in Machine Learning

JIE LU

Australia's Most Innovative Engineers 2019

Guangquan Zhang – Outstanding Paper Award from IEEE Transactions on Fuzzy Systems, from IEEE Computational Intelligence Society (CIS) Awards Committee. (2018)

Fahimeh Ramezani – The Computer Journal Wilkes Award (2018)

YULEI SUI

40th International Conference on Software Engineering 2018 ACM Distinguished Paper Award.

Received for contributions in developing a new theoretical foundation for detecting temporal memory safety vulnerabilities. (2018)

IVOR TSANG

2019 International Consortium of Chinese Mathematicians Best Paper Award

Best student paper awards

FENG LIU

Outstanding Student Paper Award 2019

Title: A Novel Fuzzy Neural Network for Unsupervised Domain Adaptation in Heterogeneous Scenarios
 Authors: Feng Liu, Guangquan Zhang, Jie Lu
 Conference: IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2019)

YUXIANG LEI

Best Paper Award (Rahdia Cousot Award) 2019

Title: Fast and Precise Handling of Positive Weight Cycles for Field-Sensitive Pointer Analysis
 Authors: Yuxiang Lei, Yulei Sui
 Conference: 26th Static Analysis Symposium (SAS 2019)

SARITA HERSE

Recipient of 1 of 10 “Nanjing City Prizes” for Best Paper and Recipient of 1 of 2 “UBTECH Prizes” for Best Paper 2018

Title: Do You Trust Me, Blindly? Factors Influencing Trust Towards a Robot Recommender System
 Authors: Sarita Herse, Jonathan Vitale, Meg Tonkin, Daniel Ebrahimi, Suman Ojha, Benjamin Johnston, William Judge and Mary-Anne Williams
 Conference: The 27th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN 2018)

ZHEDONG ZHENG

Essential Science Indicators (ESI) highly cited paper 2018

Title: A Discriminatively Learned CNN Embedding for Person Re-identification
 Authors: Zhedong Zheng, Liang Zheng, Yi Yang
 Journal: ACM Transactions on Multimedia Computing, Communications and Applications
 Paper cited over 300 times.

SHAN XUE

Outstanding Student Paper Award 2018



Title: A Framework of Transferring Structures Across Large-scale Information Networks
 Authors: Shan Xue, Jie Lu, Guangquan Zhang, Li Xiong
 Conference: International Joint Conference on Neural Networks (IJCNN 2018)

Collaborations



Research collaborations occur with universities, government departments, and industry groups through joint research centres, joint PhD supervision, research projects and commercial contracts.

KEY

-  University
-  Industry

Beijing Institute of Technology
 Beijing Jiaotong University
 Shanghai JiaoTong University
 Shanghai University
 Fudan University
 Sun Yat Sen University
 Huazhong University of Science & Technology
 National Chiao Tung University
 Chung Yuan Christian University

China Electronic Technology Company
 Southern University of Technology (SUSTech)
 Broadlink
 Shandong Zhanhong InfoTech Limited

Hong Kong Polytechnic University
 University of Macau
 Macau University of Science & Technology
 Hong Kong Baptist University

Iwate Prefectural University
 University of Tokyo
 University of Osaka

Sony
 Riken Research Institute
 Riken AIP

Fern University, Germany
 Bosch

University of Innsbruck

University of Queensland
 Griffith University
 Wide Bay Water Corp
 JR Bulk Liquid Transport
 BLU logistics
 Mooloo Sanctuary Pty Ltd
 Smartavait Technologies Pty Ltd
 QB Personnel Pty Ltd
 Working Mouse Pty Ltd

Samsung

University of Sydney
 University of New South Wales
 Macquarie University
 University of Wollongong
 University of Western Sydney

Mid Coast Water
 Alcatel-Lucent Pty Ltd
 Children's Hospital at Westmead
 Optus, Telstra
 IBM Australia Ltd
 Visual Risk
 Sydney Trains
 A2
 Makemagic Australia Pty Ltd
 Protech Business Pty Ltd
 J Blackwood & Son Pty Ltd
 Domain Group Sydney Trains
 Blink Secure Tech Pty Ltd
 Remedi 1 Pty Ltd
 ThankQ Solutions Pty Ltd
 Pendragon Management Pty Ltd
 L & A Pressure Welding Pty Ltd
 AUB Group Services Pty Ltd
 Mizzen Group Pty Ltd
 oOh! Media Pty Ltd
 NSW Department of Industry
 Meat & Livestock Australia
 Reserve Bank of Australia

IBA, Karachi

Indian Statistical Institute

Ministry of Education
 National University of Singapore
 A*STAR (National Research Institute)

University of Western Australia
 Alcolizer

University of Adelaide
 University of South Australia
 Creative Industries
 Innovation Centre
 PregTech
 PekinElmer
 D2D CRC

The Australian National University
 Australian Taxation Office
 Department of Health
 Centrelink
 Australian Research Alliance for Children & Youth
 Department of Health
 Vault Systems Pty Ltd
 CSIRO

La Trobe University
 Victoria University
 Royal Melbourne Institute of Technology
 OzRV Supplies Pty Ltd
 Retreat Caravans
 Global Business College of Australia
 mLight Pty Ltd
 Eco Recyclers Pty Ltd

Workforce Health Assessors

Our eight research labs

Intelligent Computing & Systems

Biomedical Data Science

Decision Systems & e-Service Intelligence

Intelligent Drones

Computational Intelligence & Brain Computer Interface

Recognition, Learning & Reasoning

Statistics of publications

1028

TOTAL PUBLICATIONS

1

BOOK

4

BOOK CHAPTERS

462

JOURNAL PAPERS

566

CONFERENCE PAPERS

* 2017 - 2019 data

Research areas

Data
Sciences
& Knowledge
Discovery

Large-Scale
Network
Analytics

▼ FUNDAMENTAL RESEARCH

- Computational Intelligence
- Deep Learning
- Transfer Learning
- Large-scale Graph Processing
- Concept Drift
- Reinforcement Learning
- Pattern recognition
- Probabilistic Machine Learning
- Big Dimensionality
- Neuromorphic Computing
- AI-Driven Software Security Analysis
- Computer Vision
- Explainable AI

▼ TECHNOLOGY TRANSFER RESEARCH

- Brain Computer Interface
- Recommendation Systems
- Social Networks
- Social Robotics
- Decision Support Systems
- Cloud Computation
- Blockchain
- Human Autonomy Team
- Bioinformatics
- Data Science and Visualisation
- Text Mining
- AI Privacy & Security
- Network Analytics

▼ APPLIED RESEARCH

- Health Care
- Financial Services
- Internet of Things
- Business Intelligence
- Logistics
- Transportation
- Education
- Defence
- Marine Safety
- Property
- Food
- Weather prediction

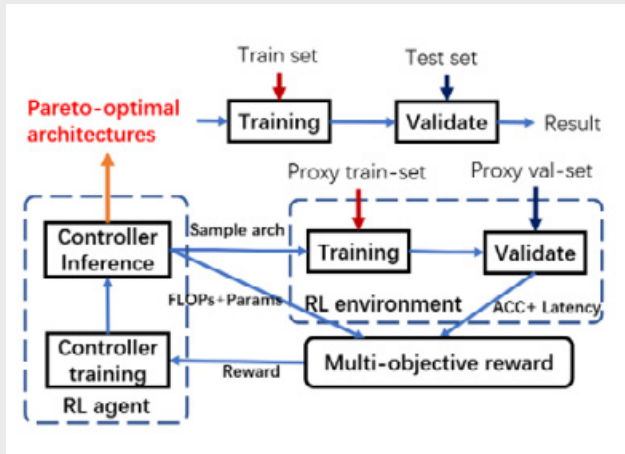
Intelligent Computing and Systems

Bioinspired Neural Networks for Deep Learning

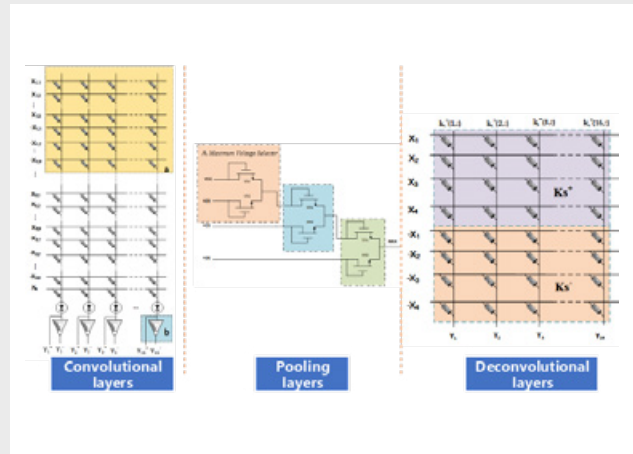
The Intelligent Computing and Systems (ICS) Lab is driving theoretical and practical innovation in circuit design, dynamic analysis, and applications of memristor-based neural networks, neuromorphic computing, and brain-inspired computing. The Lab studies the characteristics of neuromorphic computing, explores semi-supervised learning data set processing technology, designs and improves deep learning algorithms. ICS researchers use neuromorphic computing circuits to implement the improved deep learning algorithms, to compress the model to reduce the calculation cost and file size of the model to maintain accuracy, and choose the appropriate neural network framework with acceleration technology to support large-scale deep learning network applications.



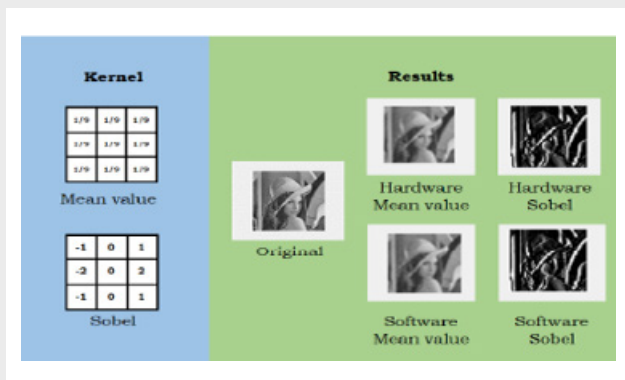
SHIPING WEN
Lab Director



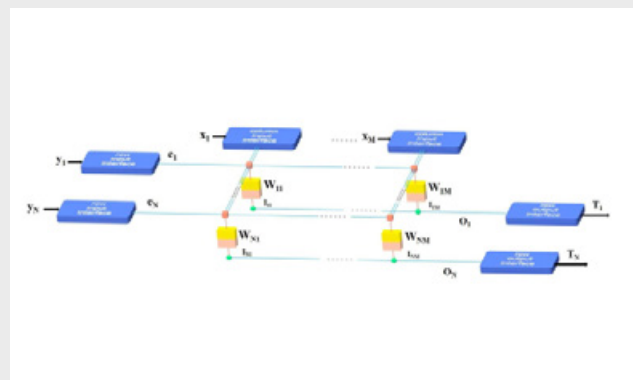
An overview of neural architecture search with RL controller



Schematic diagram of partial memristor cross array in FCN system



Convolutional operation of Kernel priority

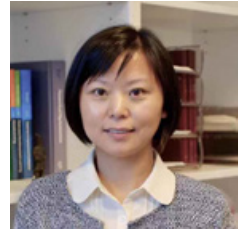


Memristor-based echo state network

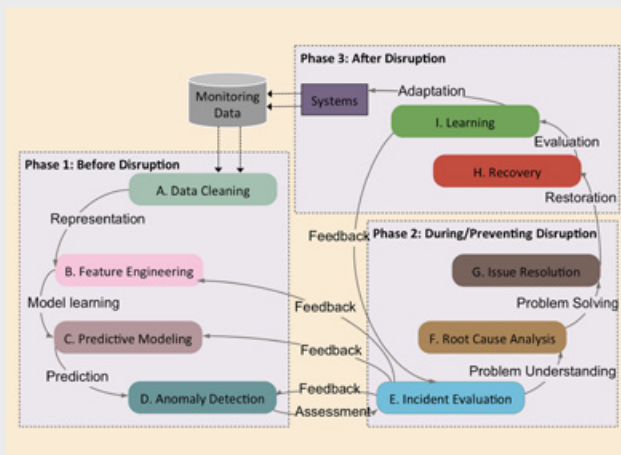
Data Sciences and Knowledge Discovery

Machine Learning and Data Mining

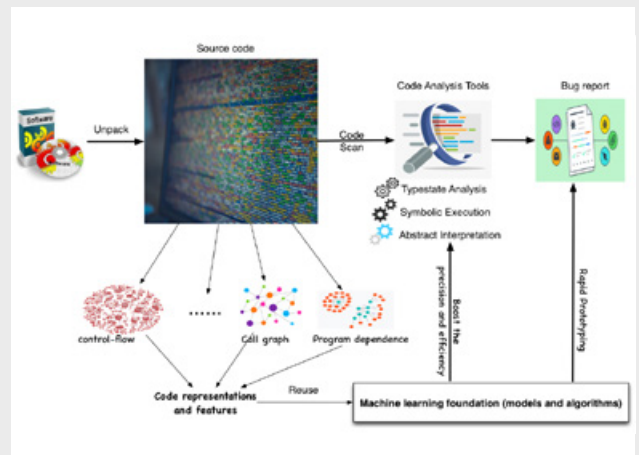
The Data Sciences and Knowledge Discovery Lab (DSKD) is driving theoretical and practical innovation in data science and knowledge discovery, machine learning, and big data analytics. The Lab develops techniques and tools that help businesses to solve problems and make smarter decisions that will ultimately enable them to reach their organisational goals. It also focuses on innovative research to address cutting edge problems in the research community.



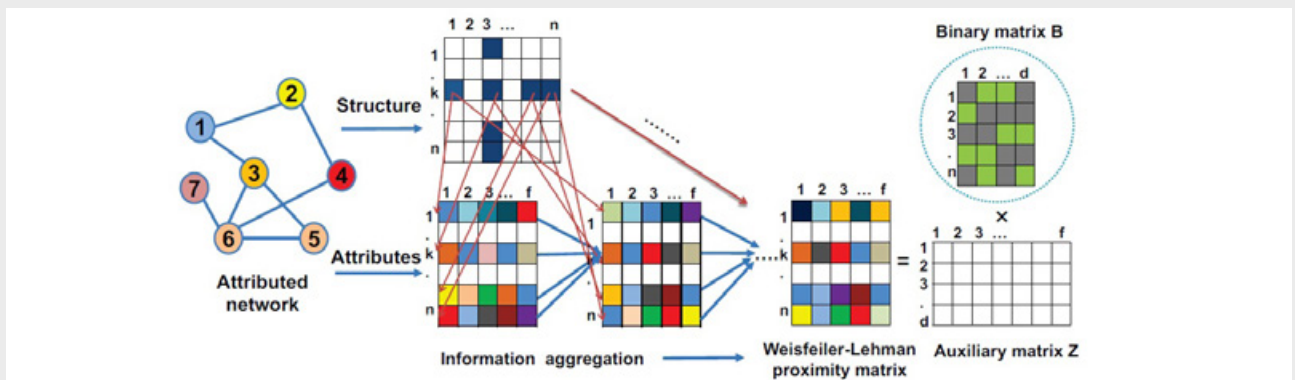
LING CHEN
Lab Director



Life cycle of a data-analytics approach for enterprise resilience



Machine-learning-guided software analysis for large programs with millions of lines of code, including software bug detection, verification and maintenance



A conceptual framework of Binarized Attributed Network Embedding

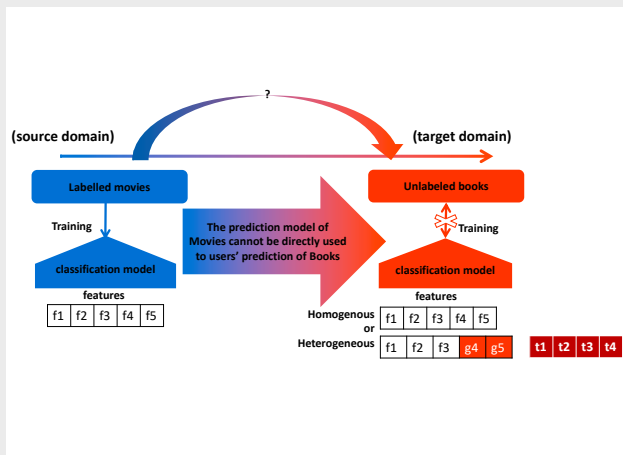
Decision Systems and e-Service Intelligence

Data-driven decision making through fuzzy logic and machine learning

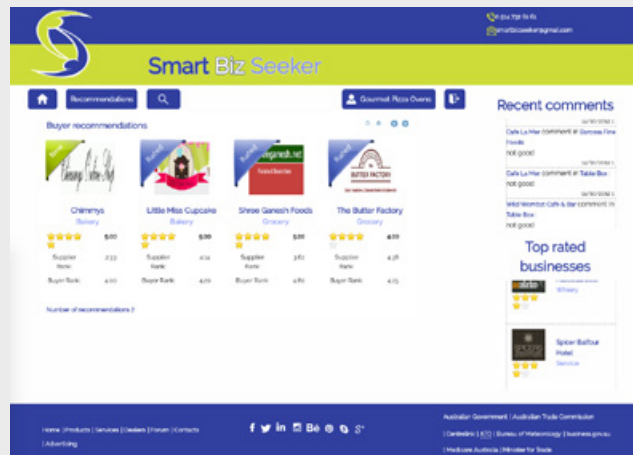
The Decision Systems and e-Service Intelligence Lab (DeSI) is developing advanced fundamental knowledge and methodologies to effectively support data-driven/learning based decision making and novel real-world decision support applications. The lab's main research focuses are transfer learning, concept drift detection and reaction, reinforcement learning, recommender systems, fuzzy decision support systems, cloud computing, intelligent bibliometrics and early warning systems.



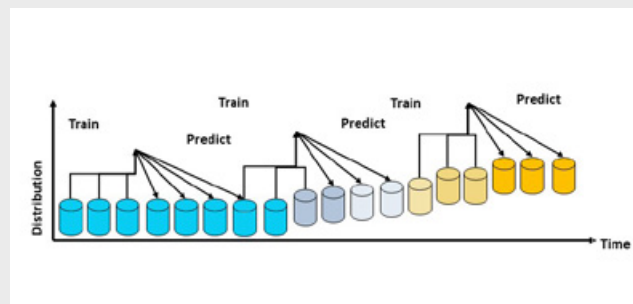
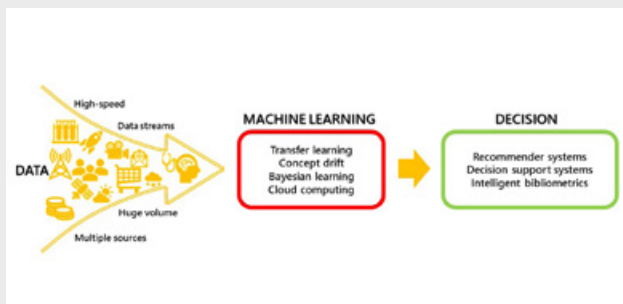
GUANGQUAN ZHANG
Lab Director



Transfer learning: Leveraging knowledge acquired from source to domain to improve learning efficiency or solve insufficient labelled-data issues in a target domain



Recommender systems: provide personalised and productive experiences for the online customer by processing and analysing big data sets



Concept drift learning: Data arrives in streams that undergo constant and arbitrary distribution changes

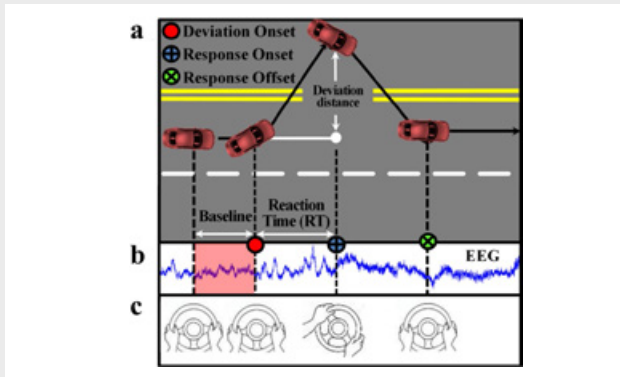
Computational Intelligence and Brain Computer Interface

Brain-computer interface and EEG assessment systems

Researchers of the Computational Intelligence and Brain Computer Interface Lab (CIBCI) develop wearable wireless electroencephalography (EEG) headsets that detect human cognitive states in real time and provide feedback to improve human performance. Wearable headsets provide early warning signals for operators of machinery and motor vehicles, tailor educational content to enhance training, assess customers' emotions to build product marketing strategies, and assist in fatigue management of military personnel. Utilizing cloud computing and technology intelligence, the technology also has medical applications to evaluate brain health to assist in treating patients with chronic neural systems.



CT LIN
Lab Director



An immersive driving simulator to measure cognitive states and behavioural changes in a lane-deviation scenario



EEG headsets have range of sensors to detect electrical activity in different areas of the brain for augmented human performance
Photo: US Army Research Lab



Using brain-computer interface to control a swarm of ROS-based autonomous robots



Understanding user cognitive states with virtual reality and the brain-computer interface

Biomedical Data Science

Data analytics in biomedical and clinical domains

The Biomedical Data Science Lab (BDS) aims to develop computational intelligence for decision making in biomedical and clinical domains. The lab's research team is helping to predict treatment outcomes for paediatric cancer and is assisting in vaccine discovery methods for agriculture. The lab is also developing approaches for text analytics in social media and language design, and knowledge discovery using pattern calculus.

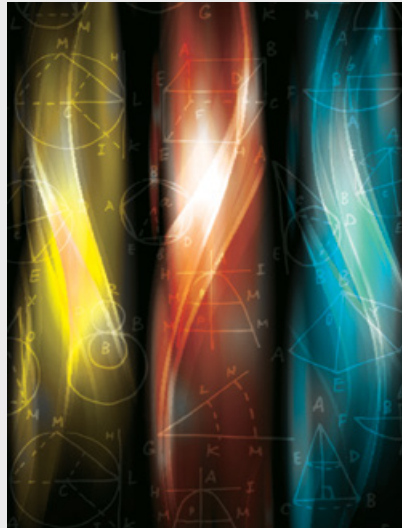


PAUL KENNEDY
Lab Director

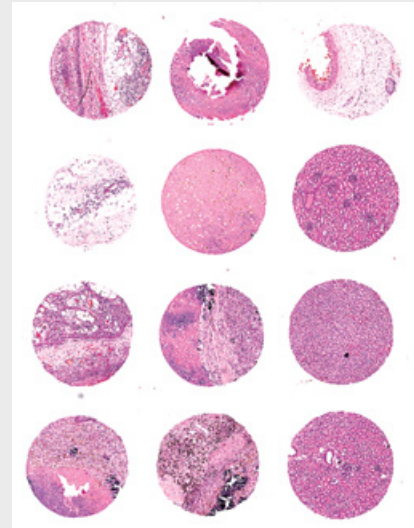


Predicting treatment outcomes for childhood cancers with the Children's Hospital at Westmead. Using a virtual reality platform, clinicians compare the human genome and treatment outcomes of people affected by cancer, to provide personalised treatment plans for the child affected by cancer

Photo: Silver Orchid /Pixabay



The bondi language implements pattern matching using pattern calculus



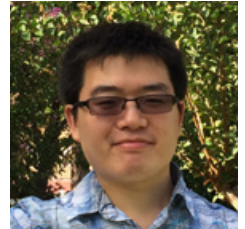
Data from thousands of tumour tissue specimens is used by the software to compare gene expressions and biological variations in patients

Large-Scale Network Analytics

The Large-scale Network Analytics Lab (LNA) focuses on conducting fundamental research to tackle challenging problems in network analytics and explore future directions in the processing and analysis of large-scale networks. LNA also aims to establish theoretical foundations for handling large-scale, highly dynamic and complex networks using parallel, distributed, external, and other cloud computing technologies.



YING ZHANG
Lab Director

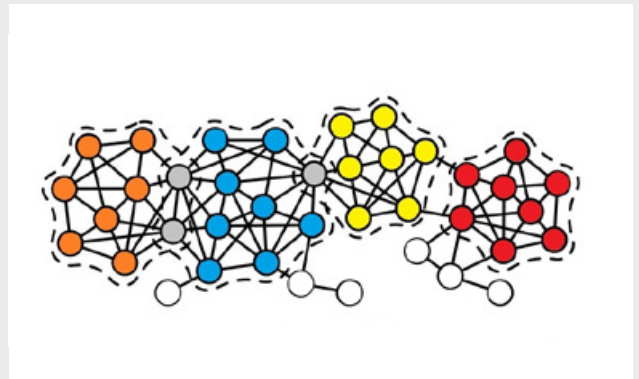


LU QIN
Lab Co-Director

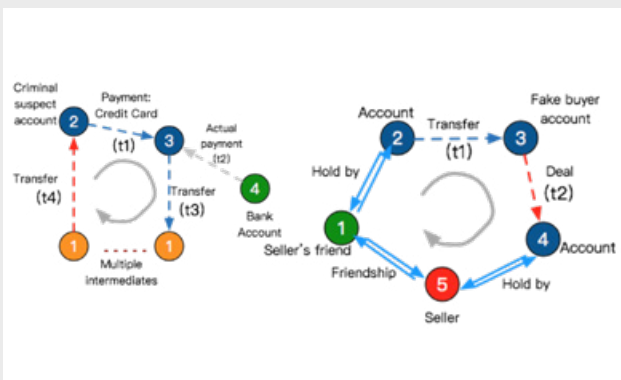


Mining and analysing large-scale graphs (networks) such as the World Wide Web, social networks, biological networks or mobile phone networks helps to detect patterns in vast datasets with billions of nodes and interconnections between them

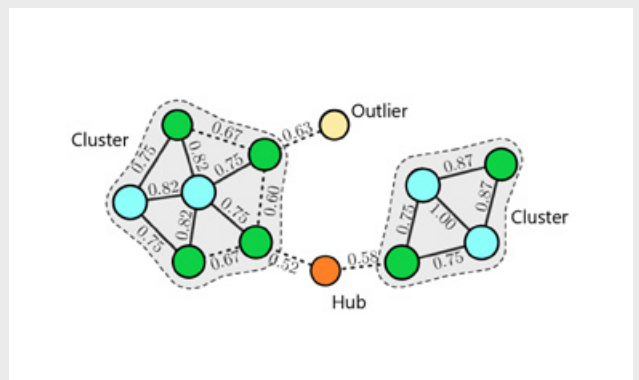
Photo: NASA/Unsplash



Large graph model detecting online communities and interconnected relationships



Analysis clustering



Analysing clustering in social networks

Recognition, Learning, and Reasoning

Computer vision and machine intelligence

ReLER Lab is committed to enable machines to accurately recognize the environment, adaptively understand the human interactions, and autonomously analyse behaviour through reasoning. To this end, we work on computer vision, learning algorithms, natural language, and their intersections. Concretely, we aim at developing novel methods for object, face, action, and event recognition by localizing positions and segmenting the instances in images and videos. Besides recognition, it is also essential for the machines to communicate fluently with humans by understanding natural language instructions and queries. To bridge the literacy gap, ReLER Lab develops captioning, question answering, dialog systems for better visual understanding and reasoning.



YI YANG
Lab Director



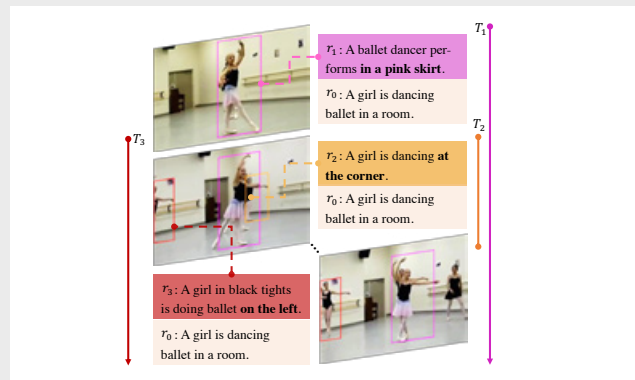
Parsing the scene into different semantic regions
Photo: Cityscapes



Identifying semantic concepts in large-scale image data
Photo: The Data to Decision, CRC



ReLER Lab: Recognition, Learning and Reasoning



Identifying the instance-level actions related to the given language expression in videos

Intelligent Drones

Autonomous drones

The Intelligent Drone Lab (iDL) is the nation's first laboratory of its kind. The lab will partner with industry to facilitate research and development into drone autonomy using computer vision and machine learning techniques. Its key objectives will include research into Beyond Visual Line of Sight (BVLOS) flight for remote pilot licences, collaboration with industry on employing drones as practical solutions in multiple application areas (industry verticals), and delivering short courses on flying, maintaining and managing drone operations for the Civil Aviation Safety Authority drone licence training.



MICHAEL BLUMENSTEIN
Lab Director



NABIN SHARMA
Lab Co-director



In collaboration with The Ripper Group, iDL developed autonomous drones equipped with an artificial intelligence application, SharkSpotter. Using this technology, drones can distinguish and identify sharks and other visible animals in the water, using real-time image processing techniques, and state-of-the-art sensors and software.

Photo: Westpac Little Ripper



The Little Ripper drones respond to people caught in dangerous surf conditions or floods, by dropping self-inflatable flotation devices to assist troubled swimmers, significantly lowering the total rescue time

Photo: Westpac Little Ripper

International Leadership

Editorial boards

JIE LU

- Editor-In-Chief for Knowledge-Based Systems (Elsevier) since 2009
- Editor-In-Chief for International Journal on Computational Intelligence Systems (Atlantis Press,) since 2011

MARY-ANNE WILLIAMS

- Information Systems Journal Board since 2014
- International Journal for Social Robotics Board since 2012

IVOR TSANG

- Partner Editor of Springer Nature: Computer Science
- Editorial Board of Frontier of Computer Science since 2019
- Associate Editor of IEEE Transactions on Emerging Topics in Computational Intelligence since 2019
- Associate Editor of IEEE Transactions on Big Data since 2018
- Associate Editor of Neurocomputing since 2016

YI YANG

- Associate Editor of Image and Vision Computing since 2014
- IEEE Transactions on Circuits and Systems for Video Technology since 2019
- IEEE Transactions on Image Processing since 2019

YING ZHANG

- Associate Editor of IEEE Trans. Knowledge. Data Eng. since 2016

CT LIN

- Associate Editor of IEEE Trans. on Systems, Man, Cybernetics: Systems since 2015
- Associate Editor of IEEE Trans. on Systems, Man, Cybernetics: Cybernetics since 2016
- Associate Editor of IEEE Trans. on Cognitive and Developmental Systems since 2017

Conference chairs

CT LIN

- Special Session Chair, IEEE Int'l Conf on Fuzzy Systems (FUZZ-IEEE17), Jul 2017, Naples, Italy

JIE LU

- Chair, FLINS 2018 Conference on Data Science and Knowledge Engineering for Sensing Decision Support, Aug 2018, Northern Ireland, UK

- General Chair, 12th International Conference on Intelligent Systems and Knowledge Engineering (ISKE 17), 24-26 Nov, Naging China
- Panel Chair, Fuzz-IEEE 2017, Jul 2017, Naples, Italy

MARY-ANNE WILLIAMS

- Advisory Board and Invited Speaker. Disruptive Innovation Week, Mar 2017, Sydney, Australia
- Panellist: Human rights by design: Responsible innovation, International Conference on Human Rights, Innovation and Technology, Jul 2018,
- Chair, Social Robots and Social Intelligence Forum, International Conference on Robotics and Automation, May 2018, Brisbane, Australia

Student achievements

XUANYI DONG

- Editorial Board Member for Journal of Artificial Intelligence and Systems since 2019.

Conference keynotes

YING ZHANG

- Query Processing and Analysis on Large Scale Networks, Australian Autonomous Vehicle Industry Engagement Forum, Jul 2019, Sydney, Australia

CT LIN

- Computational Intelligence for Brain Computer Interface, IEEE International Conf. on Fuzzy Systems, Jul 2017, Naples, Italy
- IEEE Distinguished Lecture Speaker, CIS Distinguished Lecturer, Dec 2017, Valparaiso, Chile
- Keynote Speaker, International Symposium on New Trends in Computational Intelligence, Oct 2018, Qingdao, China
- Plenary Speaker, 2018 IEEE Symposium Series on Intelligence (SSCI), Nov 2018, Bengaluru, India

JIE LU

- Fuzzy Transfer Learning, 2019 International Symposium on Datadriven Optimization of Complex System and Applications, Apr 2019 Xuzhou, China
- Data, Machine Learning and Decision-making, T2E2 2019 E2S2- CREATE and AIChE Waste Management Conference, Mar 2019, Singapore
- Concept Drift Detection and Adaptation, AI'18: The 31st

Australasian Joint Conference on Artificial Intelligence, Dec 2018, Wellington, New Zealand

- Concept Drift Detection and Adaptation, 5th IEEE International Conference on Cloud Computing and Intelligence Systems (5th IEEE CCIS2018), Nov 2018, Nanjing, China
- Concept Drift, International Conference on Identification, Information and Knowledge In The Internet of Things (IIKI2018), Oct 2018, Beijing, China
- Concept Drift Detection for Adaptive Decision Making, IEEE ICALIP 2018, The 6th International Conference on Audio, Language and Image Processing, Jul 2018, Shanghai, China
- Fuzzy transfer learning for prediction, the 9th EAI Conference on Mobile Network and Management (MNN 2017), Dec 2017, Melbourne, Australia
- Learning Under Concept Drift, the 18th International Conference on Web Information Systems Engineering (WISE2017), Oct 2017, Moscow, Russia
- Concept Drift Prediction, the 13th International Conference on Computing and Information Technology (IC2IT2017) Jul 2017, Bangkok, Thailand
- Fuzzy Transfer Learning for Prediction, AI'17: The 30th Australasian Joint Conference on Artificial Intelligence, Aug 2017, Melbourne, Australia
- Fuzzy Transfer Learning for Prediction, Australasian Computer Science Week, Sept 2017, Geelong, Australia

MARY-ANNE WILLIAMS

- Explainable AI, What, Why and How? Pacific Rim International Conference on Artificial Intelligence (PRICAI 2019), Aug 2019, Cuvu, Fiji
- Social Robotics, Australian Academy of Science, Changing Lives with Science Speaker Series, Jun 2019, Canberra, Australia
- Designing Social Robotics for the Elderly, IJCAI-2019 Eldercare Robot Challenges, Aug 2019, Macau, China
- Transfer Learning for Social Robots. TransLearn Workshop at IEEE RO-MAN 2019 Robot Skill Transfer from Simulation to Real World Deployment in Manufacturing Industries and Warehouses, Oct, 2019, New Delhi, India
- Hypothetical panellist: Do robotic slaves have rights and can a robot love? Australian Engineering Conference, Sept 2018, Sydney, Australia

Selected projects

Industry projects 2017-2019

2017

CSIRO SIEF + STEM + Workforce Health Assessors

- A Novel and Innovative System for Pre-Employment Healthcare Assessments - **Farookh Hussain**

D2D CRC

- Face Recognition and Detection - **Yi Yang | Google**
- Improving the Efficiency of Video Recognition - **Yi Yang**

Lockheed Martin

- How Fatigue Changes Autonomy Use - **CT Lin**

NSW Department of Industry

- Trecvid 2017: Video to text description - **Yi Yang**

V5 Technologies Co., Ltd

- Deep Learning for Human Action Analysis - **CT Lin**

2018

Australian Government Department of Health

- Applying NLP and Text Mining to Enhance Therapeutic Goods Administration's Capabilities in Data Analytics - **Guodong Long**

Blink Secure Tech Pty Ltd

- Machine Learning-based Approach for Enterprise Security Assessment - **Farookh Hussain**

Defence Science and Technology Group

- Intelligent Multi-agent Coordination and Learning - **CT Lin**

Domain Holdings Pty Ltd

- Recommender Systems for New Properties - **Jie Lu**

QB Personnel Pty Ltd

- Towards Multi-Factor Automation, Intelligent Processes and Data capture for Digital Human Resources - **Farookh Hussain**

2019

CSIRO/Data61

- Incentives learning for Federated Machine Learning Platform - **Jing Jiang, Chengqi Zhang**

Defence Science and Technology Group

- Adversarial Autonomous Cyber Operations based on Hierarchical Multi-agent Deep Reinforcement learning - **CT Lin**

Department of Industry, Innovation & Science +

L&A Pressure Welding Pty Ltd

- Data Streaming Platform with Artificial Intelligence for Industrial Assets - **Farookh Hussain**

oOh! Media (2019)

- Price Predictions for Billboard Advertising Space with Deep Learning - **Guodong Long**

Sydney Trains

- Bussing Optimisation Model Validation and Implementation - **Jie Lu**

ARC grants 2017-2020 (Non UTS-led)

- *UNSW led:* Efficient Processing of Large Scale Multi-dimensional Graphs (**DP180103096**) - Xuemin Lin, Wenjie Zhang, **Ying Zhang**
- *UNSW led:* Economically Efficient Green Logistics through Cyber Physical Systems (**LP160100080**) - Elizabeth Chang, Omar Hussein, **Farookh Khadeer Hussain**, Naeem Junjua, Clifford Woodward, Tim Jensen
- *Griffith University led:* Developing a Truly Intelligent Water Meter through Advanced Data Analytics (**LP160100215**) - Rodney Stuart, **Michael Blumenstein**, Hong Zhang, Damian Giurco, Kumbesan Sandrasegaran, Dragan Savic, Christopher Jones

ARC grants 2017-2020 (UTS-led)

- Brain Robot Interface for Physical Human Robot Collaboration (**DP210101093**) - **Chin-Teng Lin**; Dikai Liu
- Targeted Graph Embedding for Anomaly Detection in Large-scale Networks (**DP210101347**) - **Ling Chen**; **Lu Qin**
- Learning to Pinpoint Emerging Software Vulnerabilities (**DP210101348**) - **Yulei Sui**; **Ling Chen**
- Taming Large-Volume Dynamic Graphs in the Cloud (**FT200100787**) - **Lu Qin**
- Efficient and Scalable Similarity Query Processing on Big Streaming Graphs (**DP210101393**) - **Ying Zhang**; **Wenjie Zhang**
- Sequential decision-making in dynamic and uncertain environments (**DP200100700**) - **Jie Lu**
- Adversarial Learning of Hybrid Representation (**DP200101328**) - **Ivor Tsang**
- Automatic Machine Learning with Imperfect Data for Video Analysis (**DP200100938**) - **Yi Yang**
- Dimension-reduced Reinforcement Learning for Large-scale Fleet Management (**DE200101310**) - **Wei Bian**
- Bayesian nonparametric learning for practical sequential decision making (**DE200100245**) - **Junyu Xuan**
- Autonomous Learning for Decision Making in Complex Situations (**FL190100149**) - **Jie Lu**
- Cross-Domain Knowledge Transfer for Data-Driven Decision Making (**DP170101632**) - **Jie Lu**, **Guangquan Zhang**, **Witold Pedrycz**
- Adaptive Value-Flow Analysis to Improve Code Reliability and Security (**DE170101081**) - **Yulei Sui**
- Effective, Efficient and Scalable Query Processing of Geo-textual Streams (**FT170100128**) - **Ying Zhang**
- Towards Interpretable Deep Learning with Limited Examples (**DP180100106**) - **Ivor Tsang**, **Yi Yang**, **Alexander Hauptmann**
- A General Neural and Fuzzy Fusion Engine for Human-Machine Autonomous Systems (**DP180100670**) - **CT Lin**, **Nikhil Ranjan Pal**
- Cognitive Intelligent Information Processing and Presentation in AR-based Spatial Navigation (**DP180100656**) - **CT Lin**, **Tzyy-Ping Jung**, **Klaus Gramann**
- Large-scale Spatio-Temporal Data Hashing for Efficient Data Analytics (**DP180100966**) - **Chengqi Zhang**, **Ling Chen**, **Phillip Yu**
- Characterization of Amorphous Metal Materials (**DP180100470**) - **Youguang Guo**, **Junwei Lu**, **HaiYan (Helen) Lu**
- Dialogue-to-Action: Towards A Self-Evolving Enterprise Intelligent Assistant (**LP180100654**) - **Chengqi Zhang**, **Guodong Long**, **Xianzhi Wang**, **Jing Jiang**
- Multi-Stream Drift for Real-Time Decision Support (**DP190101733**) - **Jie Lu**, **Guangquan Zhang**, **Junyu Xuan**, **Witold Pedrycz**
- Intelligent Bibliometrics for Tracking and Predicting Technological Change (**DE190100994**) - **Yi Zhang**
- Towards Extreme Object Detection (**DE190101315**) - **Yunchao Wei**

Industry project showcase



Brain-Computer Interface

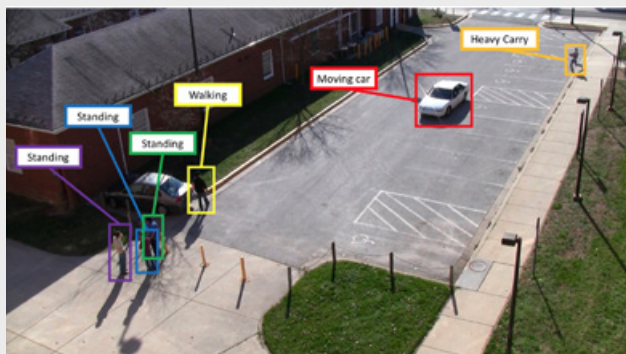
BRAIN AND MACHINE IN PERFECT UNION

Research Lead: Distinguished Professor CT Lin

Collaborators: US Army Research Lab, US Office of Naval Research, Lockheed Martin, Australian Defence, Commonwealth Bank, Australian Research Council

The future is interconnected and hands-free. Our researchers are leading the world in advancing brain-computer interface (BCI) technologies, allowing people to seamlessly communicate and control external devices using their brain signals.

The next generation of BCI will transform the daily life, health and well-being of humanity – and the real world applications are exhilarating. We are pushing the boundaries of machine learning algorithm development and paving the way to redefining approaches to everything: from how we manage stroke rehabilitation and Autism to elevating cognitive neuroscience research, signal and information processing, system realisation and evaluation, and so much more.



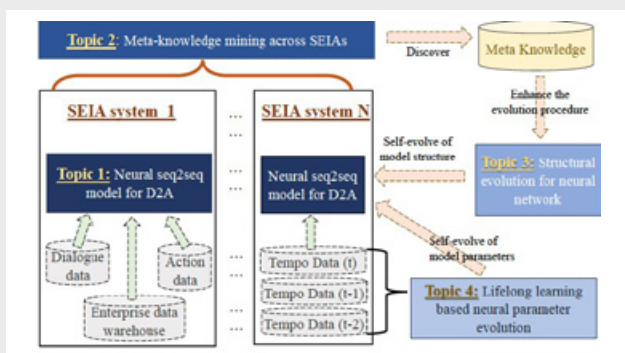
Video analysis

NEW VISION IN AI

Research Lead: Professor Yi Yang

Understanding the interactions between multiple actors, objects, vehicles, facilities and other elements in the environment is pushing the boundaries of artificial intelligence. Our researchers are making substantial leaps in video spatio-temporal localisation, using complex object and motion analysis in realistic scenes to better detect humans, objects and actions in wild video data.

The applications are immediate and far-reaching in areas including video analysis, video-guided human behaviour understanding, assistive technology, video anomaly detection, event recognition, and video archive analysis. The advances also provide an essential step towards imbuing robots with 'visual intelligence', enabling them to better understand their physical surroundings and interpret and predict human actions.



Framework of self-evolving EIA

DIALOGUE-TO-ACTION: A NEW WAY TO RESHAPE BUSINESS INTELLIGENCE

Research Lead: Dr Guodong Long

Business intelligence (BI) comprises strategies and technologies for data analysis of business information. The usefulness of Enterprise-based, natural language processing (NLP)-powered self-service solutions, also known as Intelligent Assistants (IAs) is evident in many enterprise application scenarios, e.g., Customer care, Marketing, Internal Workflow Automation, and Business Analysis.

The development of a self-evolving EIA system by using a sequence-to-sequence modelling based Dialogue-to-Action (D2A) framework will reshape BI by empowering cutting-edge NLP with deep learning technique. It will fundamentally transform current enterprise intelligence assistance from a massive rule-based process to neural-based seq2seq modelling. This self-evolving EIA will immediately enhance the broad service sector, and will enable high-quality service to be maintained at lower costs, as well as ensure fast adaptation to business changes by deploying and maintaining EIA systems.



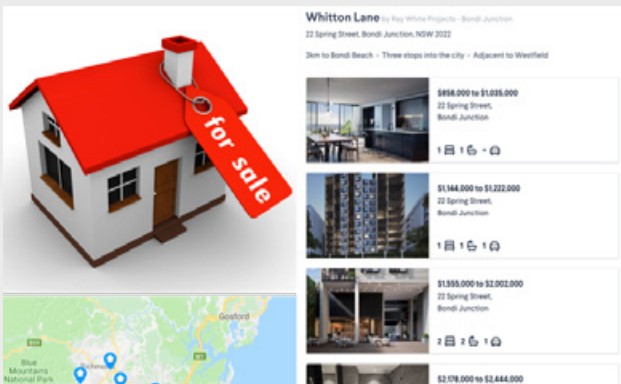
Health screening for potential employees

QUESCREEN - SMART HUMAN RISK PROFILING QUESTIONNAIRE PLATFORM

Research Lead: A/Professor Farookh Khadeer Hussain
Collaborators: Workforce Health Assessors

The Quescreen (pre-screening questionnaire) platform targets low risk roles in the pre-employment medical and pre-screening market. Quescreen aims to use AI to automate the process of low risk pre-employment medical health assessment. By mapping risk against different occupations and questionnaire components against the human body, Quescreen intelligently provides instant risk profiling of an individual, including their own unique factual positioning.

Through Natural Language Processing, data-driven decision making, and other AI technologies, Quescreen will deliver fast, affordable and accurate employee risk assessments to employers and organisations. This will empower stakeholders to make sound, knowledgeable and informed decisions around engaging or underwriting individuals with less risk.



Recommendation for new property

RECOMMENDER SYSTEMS FOR PROPERTY SERVICE

Research Lead: Distinguished Professor Jie Lu and Dr. Qian Zhang
Collaborator: Domain Holdings Australia Limited

The abundance of information urgently demands the development of personalized recommender systems for high quality e-service delivery. Our researchers are leading the development of recommender systems in property service, assisting Domain in the early stage of a property sale circle.

We are providing personalized recommendations in the dynamic market to multi-types of users for new properties. With advanced machine learning technology, we are launching a recommender system which adapts to fast-changing and various levels of user demands. The recommender system supplies Domain with solutions for users with different purposes – saving time and effort for home buyers, creating promotion chances for agents, and attracting potential investors.



Finding genomic similarities

USING VIRTUAL REALITY TO CREATE CERTAINTY IN CLINICAL DECISIONS USING COMPLEX GENOMICS

Research Lead: Professor Paul Kennedy & A/Professor Dan Catchpoole
Collaborators: The Children’s Hospital at Westmead, Western Sydney University, UTS Animal Logic Academy, Samurai Punk, Sony Foundation and Tour de Cure

The complex human genome underpins the biological mechanisms of a patient’s cancer. Presently the knowledge provided genomes is inaccessible to clinicians making treatment decisions for patients.

We develop machine learning and data analytics methods to model patients in a virtual reality space emphasising appropriate genomic similarities and differences. Our VR Technology allows cancer specialists and analysts to move into the 3D space and to explore the patient cohort from within. It enables clinicians to find patients with genomic similarities with other sufferers, moving far beyond simple statistical clustering methods to enable clinicians to uncover genomic relationships, and inform decision making for treatment regimens with a breadth and accuracy that has not been previously possible.

AAll Activities

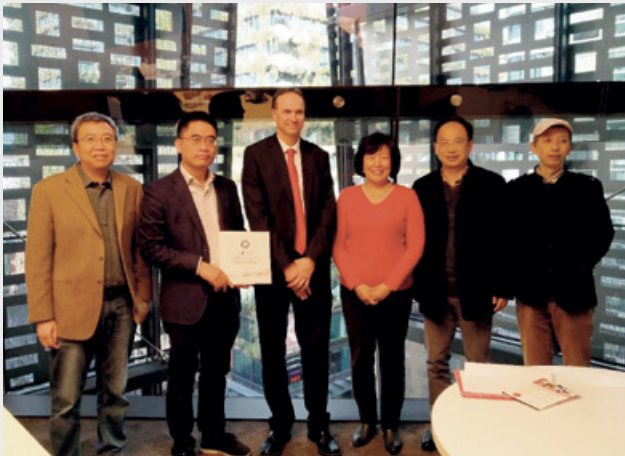
International Collaborations

The Australian Artificial Intelligence Institute prides itself in developing and generating high impact research collaborations with international communities and the higher education sector. We have created various joint research centres with UTS Key Technology Partner (KTP) universities such as UTS SusTech joint research centre for Computational Intelligence Systems and the

UTS-SHU joint research centre for Wise Intelligent Systems.

AAll has also developed various research activities with international communities and societies. Under its former name of the Centre for Artificial Intelligence (CAI), these activities included organising the IEEE Computational Intelligence Society (CIS) ExCom meeting 2018 and CIS ExCom members workshop at UTS.

The institute's research collaboration under the faculty's Research Excellence framework has also delivered very promising results, including high quality publications, joint research projects and PhD supervision, to significantly boost UTS FEIT's reputation.



Shanghai University (SHU) delegation visit at UTS (2018)



UTS supervisors and SHU dual PhD degree students at UTS (2018)



IEEE Computational Intelligence Society (CIS) ExCom workshop - ExCom members with UTS staff and students (2018)



Southern University of Science and Technology (Sustech) - UTS joint workshop in Shenzhen (2018)



Events

CAI RETREAT

CAI (now AAIL) held its first staff retreat on 25th October 2018 at The Calyz in the Royal Botanic Gardens. The event was the first to be held since CAI's inception in 2017. The retreat provided the opportunity to formally update all staff on how the Centre was tracking, as well as encouraging participation and ideas to help progress CAI in the future.

The event was divided into two sections, with the morning being dedicated to updates from the executive team and guest speakers, and the afternoon dedicated to focus groups targeting specific questions that were relevant to the Centre. The AI Hub was also launched at this event.



TWO-YEAR ANNIVERSARY

On Friday 29th March 2019, the CAI (now AAIL) held its two-year anniversary celebration. The Centre's Director, Distinguished Professor Jie Lu gave a short speech highlighting the performance that members of CAI achieved in two years since the opening of the Centre. The top three performing researchers, Dist Prof CT Lin, Prof Yi Yang and Dr Farookh Hussain, were presented with awards for their efforts. CAI students, Mohammad Alsheri, Bo Han, Feng Liu, and Xuanyi Dong, who had papers published in ERA A* journals were also commemorated with certificates and awards.



Lectures

The Faculty of Engineering and IT promotes a Distinguished Lecture Series, providing an opportunity to initiate a conversation around significant research issues faced by our Distinguished Professors. It is also a platform to present to the public, solutions to problems that our Professors have discovered and the impact of their research work to society. The lectures are attended by industry partners, academics, and students from UTS and other universities.

The CAI (now AAIL) staff cohort includes four Distinguished Professors: Jie Lu, CT Lin, Mary-Anne Williams, and Chengqi Zhang. All of our Distinguished Professors have presented in the Distinguished Lecture Series.

CT Lin presenting at the Distinguished Lecture Series (Sep 2017)
Next generation human computer interface wearable devices

Our Graduates



Dist Prof Jie Lu and 2018 CAI PhD graduands

Over 20 students have graduated from AAll (formerly known as CAI) since 2017. Below is a selected list of AAll graduates from each of the eight founding research labs of the institute.

Student	Year graduated	Lab	Supervisor	Thesis title	Current Workplace
Cao, Zehong (Jimmy)	2018	CIBCI	Prof Chin-Teng Lin	Developing a Migraine Attack Prediction System using Resting-state EEG	Lecturer, School of Technology, Environments and Design, College of Sciences and Engineering, University of Tasmania
Singh, Avinash	2018	CIBCI	Prof Chin-Teng Lin	Cognitive Conflict in Virtual Reality Based Object Selection Task	Research Associate, AAll, Faculty of Engineering and IT, UTS
Zhang, Yi	2017	DeSI	Prof Jie Lu	Competitive Technical Intelligence System for Detecting Emerging Technologies	ARC DECRA Fellow, University Technology of Sydney
Wang, Guanjin	2018	DeSI	Prof Jie Lu	Health care predictive analytics using artificial intelligence techniques	Lecturer, Murdoch University
Braytee, Ali	2018	Biomed Lab	Prof Paul Kennedy	Robust classification of high dimensional unbalanced single and multi-label datasets	Post Doctoral Research Associate, University Technology of Sydney
Gheisari, Soheila	2019	Biomed Lab	Prof Paul Kennedy	Computer-Aided Diagnosis Systems in the Classification of Neuroblastoma Histological Images	Post Doctoral Research Associate, University Technology of Sydney
Mahya Mirzaei Poueinag	2019	Magic Lab	Mary-Anne Williams	Disruptive Innovation: Integrating Business Analytics and Design Thinking.	CEO and Founder, Learned Hub
Jonathan Vitale	2018	Magic Lab	Mary-Anne Williams	Cognitive Robotics	Casual Academic, AAll, Faculty of Engineering and IT, UTS
Liu, Weiwei	2017	DSKD	Prof Ivor Tsang	Advanced Topics in Multi-label learning	Full Professor, Wuhan University, Young 1000 Talent 2019
Wu, Wei	2018	DSKD	A/Prof Ling Chen	Efficient MinHash-based Algorithms for Big Structured Data	Research Associate, University of Sydney

Our Achievements



Professor Lu was awarded the Australian Laureate Pin on 28 November at Old Parliament House, Canberra, Australia. Left: Dr. Katie Allen, MP, the representative of the Minister for Education, Australia. Right: Distinguished Professor Jie Lu

Congratulations to Distinguished Prof. Jie Lu for being awarded the Australian Laureate Fellowship

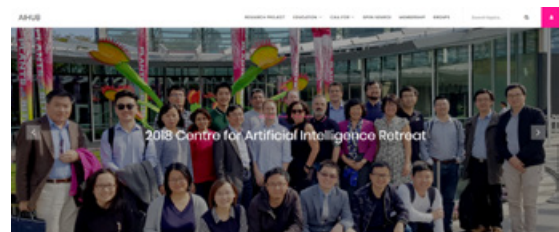
The Australian Laureate Fellowships are awarded to Australia's outstanding academics to lead ground-breaking research projects that will benefit our health, economy, environment and understanding of the world. Distinguished Prof Jie Lu has received the 2019 Australian Laureate Fellowship for her pioneering work and remarkable achievements in developing machine learning methods to support data-driven decision making. This remarkable achievement marks the first Australian Laureate Fellowship for UTS. Prof Lu was awarded the Australian Laureate Pin on 28 November 2019 at the Old Parliament House, Canberra, Australia.

AI Hub

AII has developed an online platform called the AI Hub (aihubglobal.com), which is a central, collaborative network for AI research centres and application groups in Australia and around the world, with the aim of enhancing collaborations and boosting AI research outcomes.

The AI Hub's purpose is to:

- Target large project and grant applications through collaborations with other AI centres, leading researchers, and industrial partners.
- Generate solid research impact through the development of extensive real-world applications.
- Enhance career development for PhD scholars, early-career and middle-career researchers through collaborations and exchange programs.
- Produce high-quality publications through joint supervision and joint projects with academia and industry.
- Facilitate joint workshops and conferences. Members of the AI Hub will be able to share information and resources, as well as having a platform to collect feedback and hold advanced discussions.



AI Hub

aims to be a central, collaborative network for AI research centres and application groups in Australia and around the world, with the aim of enhancing collaborations and boosting AI research outcomes.

If you would like to join the AI Hub community, please email aaiadmin@uts.edu.au with your request.

aaii.uts.edu.au

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UTS CRICOS 00099F

23653 December 2020

Images: Jason Vandeppeer, Christopher Shain