



THE UNIVERSITY  
of ADELAIDE



Excellence in AI  
research and innovation

# AUSTRALIAN INSTITUTE FOR MACHINE LEARNING

[adelaide.edu.au/aiml](http://adelaide.edu.au/aiml)

# AUSTRALIAN INSTITUTE FOR MACHINE LEARNING



## About us

The Australian Institute for Machine Learning was officially established early 2018.

Co-investment by the State Government and the University of Adelaide saw the concept of Australia's first institute dedicated to research in machine learning finally come to fruition.

Although a new Institute by name, AIML was formed from the Australian Centre for Visual Technologies (ACVT), a group with a long history of delivering high-impact fundamental and applied research. ACVT's many years of success and experience has formed the core of what is now known as AIML.

We have grown exponentially to become the largest machine learning and computer vision group in the country, with over 100 members, boasting outstanding research expertise, state of the art facilities, high-achieving students and recognised on a global scale.

We will be an anchor tenant at the South Australian Government's new innovation precinct at Lot Fourteen.

At AIML, we are:

- collaborating with world-leading companies to develop high-tech products and solutions
- providing an interdisciplinary approach to research and consulting

- carrying out world-leading research in one of the most competitive fields globally
- providing a focus for innovation in South Australia
- developing world-class technological skills in SA.

## What is machine learning?

AIML is a world leader in the competitive research areas of machine learning and AI, and in high-quality research translation.

Machine learning is a form of artificial intelligence that enables computers and machines to learn how to do complex tasks without being programmed by humans. This technology is driving what is known as the "fourth industrial revolution".

Machine learning underpins the business models of the largest corporations and has the potential to deliver massive, social, economic and environmental benefits. Our world-class research strengths lie in machine learning and the methods that support this; artificial intelligence, computer vision and deep learning.

Artificial intelligence is expected to transform the global economy within the next decade.

Our aim is to strengthen Adelaide's position as a global destination for high-tech research and development, and ensure that South Australia is well prepared to reap the significant benefits this technology offers.

## Our research

We are committed to producing outstanding research that is engaging, innovative and importantly can be applied to real-life challenges.

Our world-leading research staff conduct pure and applied research under the following themes; Machine Learning Theory, Trusted Autonomous Systems, Robotic Vision and Visual Question and Answering.

Applications include:

- Medical machine learning
- Object recognition
- Space navigation and tracking
- Visual question answering
- Simultaneous localisation and mapping
- Geophysical data analysis
- ISR
- Driverless vehicles
- Recommender systems
- Cybersecurity
- Environmental analysis.





## Why work with us?

AIML are world leaders in a research area that is having a disruptive impact on every area of the economy. From short consultancies to major technology development, we are able to assist businesses seize the transformative opportunities that machine learning offers.

Our innovative capabilities enable us to engage with domestic and international businesses in:

- Defence and security
- Health and medical
- Mining and resources
- Agriculture and food
- Space
- Environment
- Advanced manufacturing
- Sports science
- Transport and infrastructure
- Media and entertainment
- Finance and commerce
- Energy
- Social and policy
- ICT.

With a proven track record collaborating with local, state and federal government, universities, multi-national organisations and SMEs, our talented researchers can work with you to provide practical solutions including:

- developing deeper insights into customer behaviour
- identifying patterns in large, complex data sources
- predicting future behaviour of people and systems
- coaching staff or students on how to improve their performance
- optimising complex systems
- automating the interpretation of video and imagery
- producing computer vision and robotics applications
- deep learning and pattern recognition
- natural language processing
- visual question answering
- generating AI innovation strategies.

## Collaborative research and development (R&D)

AIML researchers are working with companies from start-ups to multi-nationals to develop revolutionary new technology.

We have been funded by Facebook, Google, Microsoft, Bayer and Canon amongst many others, and have developed first-in-class medical device technologies for Australian start-ups.

We have an impressive track record of successful research and development projects that have been executed under various grants schemes, including ARC Linkage Projects, CRC-P Projects and Defence Innovation Partnerships.

AIML conducts fundamental and applied research, and our specialised staff are experienced in developing and tailoring R&D proposals to suit individual requirements.

AIML's services have seen multiple patents commercialised and Intellectual Property licenced, forming the foundation of a number of sophisticated products.

## Working with us

Whether it is a short-term contract or a major, cross-disciplinary venture, AIML has the expertise and capability to work with industry and government on product commercialisation and development.

We work collaboratively to develop exclusive AI-based products and ensure that our clients are ready to compete in an AI-enabled economy.



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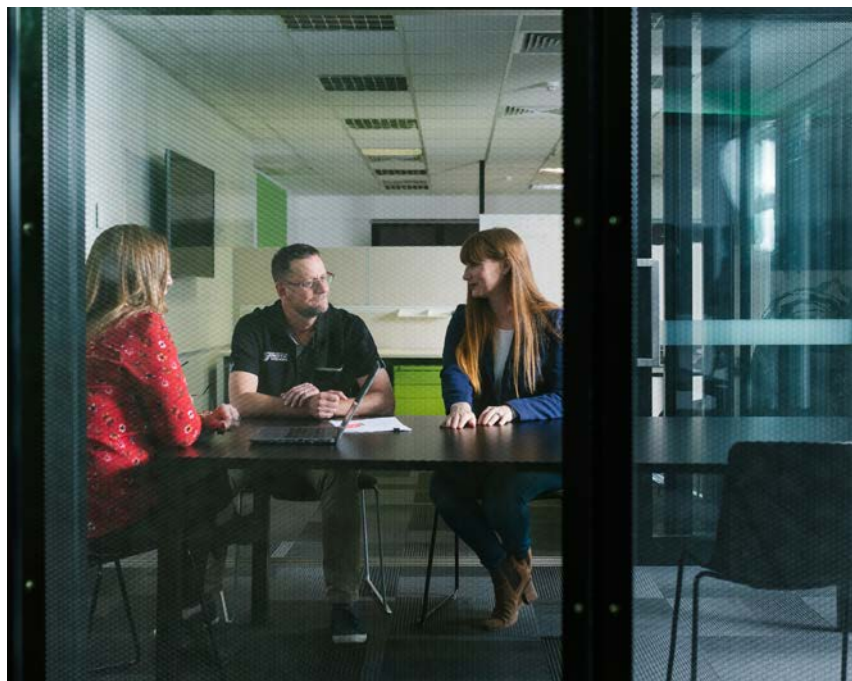
## OUR MISSION

The Australian Institute for Machine Learning (AIML) is transforming the way we live for the better through research excellence in machine learning, artificial intelligence and computer vision.

## OUR VISION

To be global leaders in machine learning research, and high-impact research translation.

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# AIML AT A GLANCE



**1ST**  
IN VISUAL  
QUESTION ANSWERING  
CHALLENGE 2.0



**THE LARGEST MACHINE  
LEARNING GROUP IN  
THE COUNTRY**



**1ST**  
IN RETINAL IMAGE  
SEGMENTATION



**1ST**  
IN CITYSCAPES, A KEY  
DRIVERLESS CAR BENCHMARK



**\$8M+**  
OF FUNDING  
IN 2018



**100+**  
RESEARCHERS  
AND STUDENTS



**MULTIPLE  
START-UP  
COMPANIES**



**MULTIPLE TECHNOLOGY  
LICENCES AND  
COMMERCIALISED PATENTS**



**2ND**  
IN xVIEW OVERHEAD  
IMAGE ANALYSIS



**3RD**  
IN WORLD BY HIGH  
QUALITY PAPERS

## FOR FURTHER ENQUIRIES

Level 5 Ingkarni Wardli Building  
North Terrace Campus  
The University of Adelaide SA 5005 Australia

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**EMAIL** [aiml@adelaide.edu.au](mailto:aiml@adelaide.edu.au)

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 [adelaide.edu.au/aiml/](http://adelaide.edu.au/aiml/)

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 [twitter.com/TheAIML](https://twitter.com/TheAIML)

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