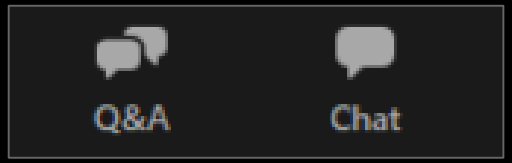
AI for Law Enforcement & Community Safety

TUESDAY 12 JUNE 12:00PM AEDT

You will automatically be muted, however you can still use the chat box throughout the event. Please use the Q&A window to ask questions.



Please be courteous and only use respectful language.

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AI FOR LAW ENFORCEMENT AND COMMUNITY SAFETY

FACULTY OF INFORMATION TECHNOLOGY

Presented by
Campbell Wilson, Associate Professor, Department of Data Science and Artificial Intelligence and AiLECS Lab Co-director
Caitlin Reid, Senior Student Recruitment Coordinator

Date: Tuesday 13 June, 12.00-12.50pm, online

Acknowledgement of Country

‘I acknowledge the Traditional Custodians of the land on which we meet today, and I pay my respects to their Elders past, present and emerging. I also extend that respect to any Aboriginal and Torres Strait Islander peoples here today’

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Why choose IT?

Demand for IT specialists

- Half of the jobs in the Australian LinkedIn Jobs on the Rise Report 2022 require an IT background.
- A senior .**NET/Java developer** can expect a salary between $120,000 and $170,000 a year before superannuation.
- The average salary for a **data scientist** in Australia ranges between $110,000 to $140,000 per year (SEEK, 2022)
- By 2026, data science will create another 11.5 million job openings.
- A **network administrator** in Melbourne is earns an average of around $130,000 annually
- The role of **business analyst** was identified by Hays as the country's most needed within the technology category, just ahead of **cloud engineers** ($160,000 in Sydney), **full stack developers** ($160,000 in Canberra), and **cybersecurity analysts** ($145,000 in Melbourne).

"91% of employers said they are facing a skills shortage… it's no surprise that Australian IT workers can easily find salaries in the mid six-figures"

https://ia.acs.org.au/content/ia/article/2022/it-workers-still-commanding-top-dollar.html?ref=newsletter

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Undergraduate Courses

BACHELOR OF INFORMATION TECHNOLOGY: C2000

ATAR: 80.05 **IB:** 29

Duration: 3 years

Course Structure: Comprehensive

Majors

- Business Information Systems
- Games and Immersive Media
- Cybersecurity
- Software Development

Careers

Cybersecurity Analyst
Web Developer
Software Manager
Games Developer
Computer Forensic Investigator

Salary

IT Graduate: $69,000*
After 3 years: $90,000*

Average IT salary in Australia in 2023:
$135,517^

* Graduate Outcomes Survey 2022
^ www.adzuna.com.au/search?cat=2&loc=105392#stats_pay_distribution

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BACHELOR OF INFORMATION TECHNOLOGY: C2000

Minors: Choose from 13 Minors

- Business Information Systems
- Cybersecurity
- Computer Science
- Cybersecurity
- Games Design
- Games and immersive media
- Data Science
- IT for Business
- Mobile Apps Development
- Software Development
- Software Engineering
- Web Development
- 3D Modelling & Animation

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BACHELOR OF COMPUTER SCIENCE: C2001

ATAR: 84.15 **IB:** 31 **Duration:** 3 years **Course Structure:**
Specialist

Advanced Computer Science

Computer Science is the study of:

- Algorithms
- Data structures
- Programming languages
- Software design
- Computer hardware

It involves understanding how computers work and how to use them to solve problems.

Computer science has many sub-fields including AI, Computer Graphics, databases and programming languages

Data Science

Data Science is the study of data and how to use it to make informed decisions.

It involves collecting, cleaning, and analysing large data sets to identify patterns and trends.

Data Science requires the knowledge of:

- Statistics
- Mathematics
- Programming

As well as an understanding of machine learning algorithms and data visualisation techniques.

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BACHELOR OF COMPUTER SCIENCE ADVANCED (HONOURS): C3001

ATAR: 95.70 **IB:** 38 **Duration:** 4 years **Course Structure:**
Specialist

Computer Science Advanced (Honours)

This course offers the benefits of the Bachelor of Computer Science as well as a stream of practical research projects, and will suit mathematically minded high achieving students:

- More challenges
- Advanced classes
- Research and development programs
- Introduces students to innovation & research

Work on a substantial research project with experts.

Complete a Masters in 1 more year, and on to Research.

Careers: Computer Science

Database Administrator
IT Consultant
Specialist Programmer
Computer Forensics Investigator

Careers: Computer Science Advanced

Chief Information Officer
Machine Learning Engineer
Scientific Researcher
Data Architect

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BACHELOR OF SOFTWARE ENGINEERING (HONOURS): E3001

ATAR: 86.0 **IB:** 32 **Duration:** 4 years

Course Structure: Specialist

Software Engineering (Honours)

This degree is designed to address the demand for graduates who possess skills in large scale software systems:

- Software development
- Computer Science
- Algorithms and Data structures
- Computer Architecture

Completed in collaboration with the Faculty of Engineering. Students complete a common 1st year.

Careers: Software Engineer

Network Administrator
Software Developer
Business Analyst
Configuration Control Manager

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DO MORE WITH A DOUBLE DEGREE

Through our double degrees, students can establish themselves in two fields. An interdisciplinary skill set can help unlock more career opportunities, and create greater choice in life.

Choose from:

- Arts
- Business
- Commerce
- Criminology
- Design
- Engineering (Honours)
- Fine Art
- Global Studies
- Law (Honours)
- Science

In most cases, a double degree can be completed in 4 years which is far shorter than doing 2 separate degrees. This is because the required units from one course count as electives in the other.

Student Perspective

*"Choosing to pursue a double degree in Computer Science and Commerce was the **best decision** I could have made. The analytical and technical skills I've gained from Computer Science, paired with the strategic mindset from Commerce, have given me a **competitive advantage** that is highly sought after by employers.*
*This degree has opened doors for exciting and more **flexible opportunities**, and I can't wait to see where it takes me in the ever-evolving world of technology and business!"*

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DO MORE WITH A DOUBLE DEGREE

	Arts	Business	Commerce	Criminology	Design	Engineering	Fine Art	Global Studies	Law	Science
COMPUTER SCIENCE										
Advanced Computer Science			■			■			■	■
Data Science			■						■	■
INFORMATION TECHNOLOGY										
Business Information Systems	■	■	■	■	■		■	■	■	■
Cybersecurity	■	■	■	■	■	■	■	■	■	■
Games and Immersive Media	■	■	■	■	■		■	■	■	■
Software Development	■	■	■	■	■		■	■	■	■
SOFTWARE ENGINEERING	■		■							■

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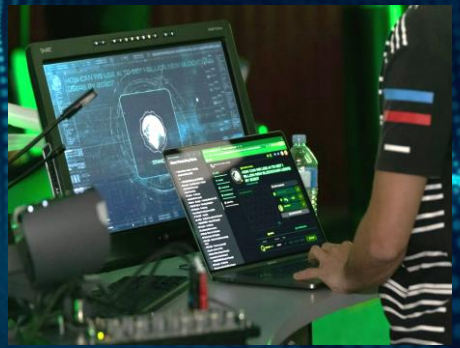
Work Integrated Learning Programs (WIL)

The Faculty of IT provides students with the opportunity to apply their knowledge in real world settings

Students have access to the following WIL opportunities:



INDUSTRY BASED LEARNING - IBL

INDUSTRY EXPERIENCE PROJECTS - IE

STUDIO PROJECT UNITS

MONASH INDUSTRY TEAM INITIATIVE - MITI

The Monash student experience

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CAMPUS LIFE & CULTURE

Accommodation at MRS

Monash Sports

Cafes & Restaurants

Student & IT Clubs

monash.edu/**accommodation**

monash.edu/**sport**

monash.edu/**food-and-retail**

monash.edu/**students/campus-life/clubs**

monash.edu/**students/campus-life/non-residential-colleges**

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INFORMATION
TECHNOLOGY

CLUBS & SOCIETIES

MONSEC

MEGA

CCA

MAC

diverslT

>wired_

Scholarship Opportunities

www.monash.edu/it/future-students/scholarships

IT Excellence Scholarship

As a scholarship recipient, you will receive $6,000 per annum for the duration of your degree (up to $24,00 for a 4 year degree)

Open to Australian students studying Year 12 or IB.

Awarded to the most high achieving student (minimum ATAR of 95.00)

Women in Technology

We support bright young women who wish to study IT. No application is necessary and you will be automatically assessed when you apply.

Scholarship is $6,000 for 1 year.

IBL Scholarships

The Industry Based Learning (IBL) program is available for all IT students to apply. Successful applicants receive financial support for the duration of the 22 week placement.

Scholarship is $19,000 for the placement.

AiLECS lab

Ai for law enforcement and community safety

Associate Professor Campbell Wilson

AiLECS Lab Co-director

A collaboration between:

MONASH University

AFP AUSTRALIAN FEDER

Who we are

A collaboration between:

MONASH University

AFP AUSTRALIAN FEDERAL POLICE

AiLECS lab

Our Ethos

Collaboration

- **Within Monash**
- **Nationally**
- **Internationally**

Academia/Agencies/Industry

Open source as much as possible

Translation

Research → Practice, Technology, Policy

KPIs developed that capture R&D expectations

Impact

Making a difference, rapidly enhance capabilities

MONASH University

AiLECS lab

What we do

Countering online child exploitation

Transfer Learning for CSAM Classification

Countering online child exploitation

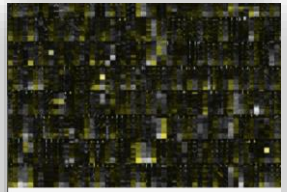
Perceptual Hashing

Countering online child exploitation

Image Localisation by Content

Managing sensitive data

Law Enforcement Data Interoperability



Interdisciplinary AI research

Technical and Socio-Technical Responses to Deepfakes

Detecting illegal firearms

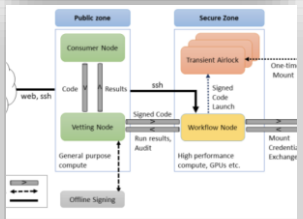
Project Metior Telum

Curating ethical datasets

The VALID Project

Interdisciplinary AI research

The EXPLAIN Project



Managing sensitive data, Uncategorized

The Data Airlock

AiLECS lab

MONASH University

QUESTION TIME!

@MonashInfotech

@MonashInfoTech

monash.edu/it

fit-student.recruitment@monash.edu