Introduction and overview

MIS715 RESPONSIBLE ARTIFICIAL INTELLIGENCE

DEAKIN UNIVERSITY CRICOS PROVIDER CODE: 00113B

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Content

DEAKIN BUSINESS SCHOOL

- Teaching team
- Learning objectives and outcomes
- What's involved in this unit?
- Weekly activities and assessments
- Reading and learning materials

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DEAKIN BUSINESS SCHOOL

Unit Team

Unit Chair: A/Prof. Van-Hau Trieu (t.trieu@deakin.edu.au)

Lecturer and Seminar Facilitator: Dr Jayson Lamchek (j.lamchek@deakin.edu.au)

Burwood Seminar Facilitator: Dr Jean Chong (j.chong@deakin.edu.au)

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About me

Dr Jayson Lamchek

- Research Fellow, Deakin Law School
- Cyber Security Cooperative Research Centre (CSCRC) (2022-2024)
- Previous roles: National University of Singapore; Australian National University; University of New South Wales
- Research areas: Human rights; science-linked rights; regulation of AI; responsible AI in the Australian government

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MIS715 Unit Learning Outcomes

Your Unit Learning Outcomes

Each Unit in your course is a building block towards Deakin's Graduate Learning Outcomes - not all Units develop and assess every Graduate Learning Outcome (GLO).

ULO	These are the Learning Outcomes (ULO) for this unit. At the completion of this unit, successful students can:	Deakin Graduate Learning Outcomes
ULO1	Evaluate the social and ethical issues raised by AI technologies.	GLO1: Discipline-specific knowledge and capabilities GLO8: Global citizenship
ULO2	Explain and justify the implications of emerging ethical and regulatory concerns.	GLO1: Discipline-specific knowledge and capabilities GLO4: Critical thinking
ULO3	Critically examine, analyse, and apply ethical and governance perspectives to design, develop and deploy AI technologies responsibly.	GLO1: Discipline-specific knowledge and capabilities GLO4: Critical thinking
ULO4	Convincingly argue, orally and in writing to communicate perspectives to non-technical professionals, business decision-makers, and the community at large.	GLO2: Communication

These Unit Learning Outcomes are applicable for all teaching periods throughout the year.

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How?

Blended learning approach.	All materials and class activities have been created to support both on-campus and online study.	Students can use the online materials to study on-campus or online.	Students can choose to:
			attend the class and seminars (on-campus or online)
			study in their own time and at their own pace to complete learning activities and to submit assignments by the deadlines.

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Lecture:
- Wednesdays (15:00 PM- 16:20 PM), LT 1A (I2.07), Burwood Campus
- Lecture will be livestreamed; Zoom link can be found under "Online Classrooms". Make sure you use Deakin account to login
- Recording of weekly lecture is available on the unit site on Wednesdays (after 9:00 PM – Melbourne time).
- Students are encouraged to join the lectures or listen to the recordings

Seminars:
- Burwood seminars:
  - Wednesdays, 16:30 PM – 17:50 PM
  - Thursdays, 11:00 AM – 12:20 PM
- Online seminar:
  - Thursdays, 17:00 PM- 18:20 PM) via Zoom. The Zoom link can be found under "Online classrooms".
- Seminar recordings are available on the unit site on Fridays (after 8:00 AM- Melbourne time)

Note: Students are expected to read materials on the unit site before attending the lectures and seminars

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Readings and References

- Essential readings, podcasts, videos are available under each topic on the unit site
- Lecture and seminar recordings will be progressively released on CloudDeakin.

Other Useful References:

- Blackman, R, Ethical Machines : Your Concise Guide to Totally Unbiased, Transparent, and Respectful AI (Harvard Business Review Press, 2022). Ebook can be access via: https://ezproxy.deakin.edu.au/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cat00097a&AN=deakin.b5054437&site=eds-live&scope=site

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Weekly Activities and Assessment Tasks

Let's have a look at the unit guide

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Questions, enquires, seeking help…?

Please use your Deakin email to contact us…

❖ For *topic and assessment matters*, contact **your lecturer and seminar Facilitators/Tutors**, or use discussion forums

❖ For all admin questions and *personal matter,* contact unit chair t.trieu@deakin.edu.au

❖ In emails please specify in the email subject:
  ❖ Unit Code **MIS715**
  ❖ Contact eSolutions for Technical questions

Thank you! ☺

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Getting Started and Topic 1

- Let have a closer look at the unit site.
- Start exploring Responsible Artificial Intelligence.

We look forward to enjoying lots of hard work and fun in MIS715

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What to expect in MIS715?

Let's have a look at the section 'Welcome – Getting Started' on the unit site
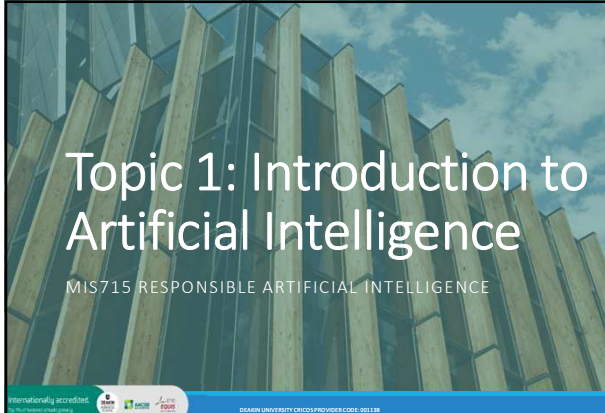
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Introduce yourself

Please introduce yourself, including as much detail as you feel comfortable sharing about your location , current role, and experience in this or similar roles.

Also, share your expectations of this unit - why are you here, and what are you hoping to learn/achieve?

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Topic 1: Introduction to Artificial Intelligence

MIS715 RESPONSIBLE ARTIFICIAL INTELLIGENCE

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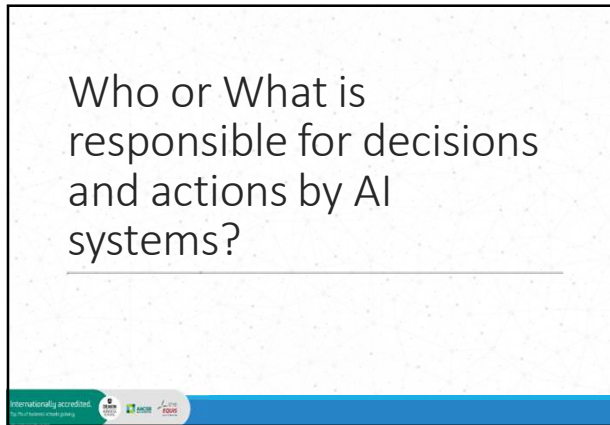
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Core Learning Objectives

Describe	Describe what it means for an artefact to exhibit "Artificial Intelligence" (AI).
Understand	Understand the evolutionary progression of AI, its relationship to technology and the impact of society.
Identify	Be able to identify the different types of AI.
Recognize	Recognize relevant ethical considerations and the role regulation must play in the use of AI.
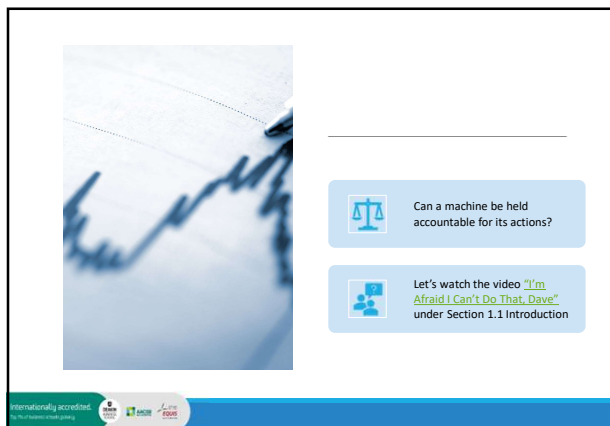
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Who or What is responsible for decisions and actions by AI systems?

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Can a machine be held accountable for its actions?

Let's watch the video *"I'm Afraid I Can't Do That, Dave"* under Section 1.1 Introduction
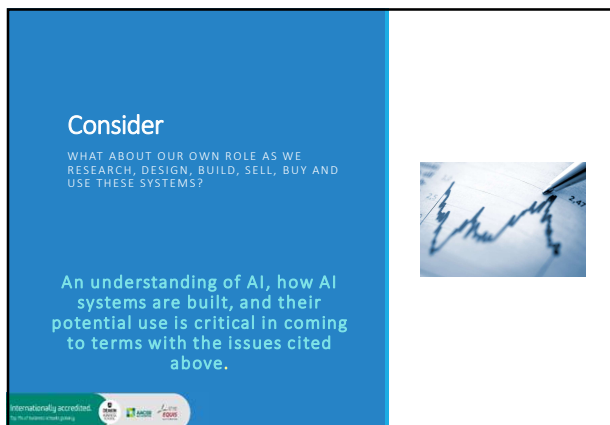
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Consider

WHAT ABOUT OUR OWN ROLE AS WE RESEARCH, DESIGN, BUILD, SELL, BUY AND USE THESE SYSTEMS?

An understanding of AI, how AI systems are built, and their potential use is critical in coming to terms with the issues cited above.

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What is AI?

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What is AI?

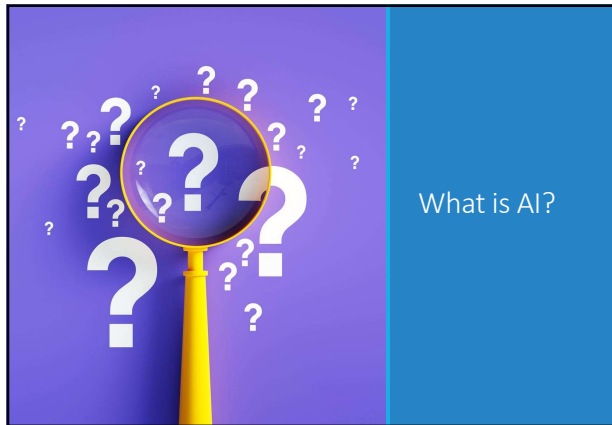AI has been discussed widely but there is no consistent definition of AI. Basically, AI is viewed as the following…

A machine's ability to perform cognitive functions we usually associate with human minds, such as perceiving, reasoning, learning, interacting, problem solving, and creativity

More definitions of AI are also provided on the unit site

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What is machine learning and deep learning?

Machine learning is a form of AI based on algorithms that are trained on data and can learn from data and experiences

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What is generative AI?

Generative AI is an AI model that generates content in response to a prompt. It can produce a variety of credible writing, images, and video, and has applications in marketing, sales, operations, IT, engineering, and R&D.
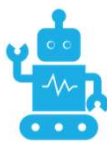
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How can businesses benefit from AI?

AI CAN HELP BUSINESSES IMPROVE EFFICIENCY, PROFITABILITY, INNOVATION, AND CUSTOMER SATISFACTION

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Activity

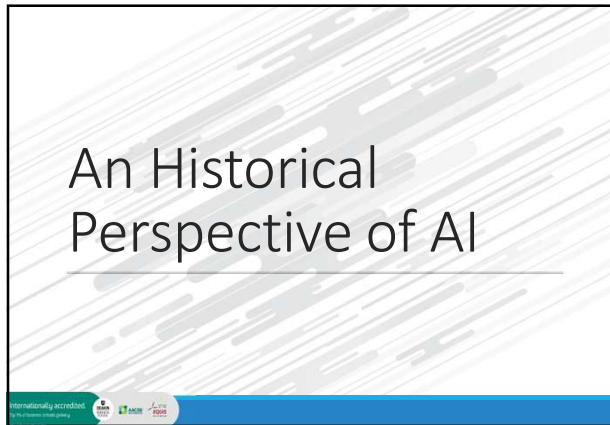MOST AI SYSTEMS IN THE PAST HAVE BEEN BUILT TO SOLVE VERY SPECIFIC PROBLEMS (E.G. PLAY CHESS) IN THE FOLLOWING VIDEO DEEPMIND, A BRITISH AI COMPANY, IS MOVING TOWARDS "GENERAL AI". DOES IT CHANGE YOUR PERCEPTION OF WHAT AI IS CAPABLE OF?
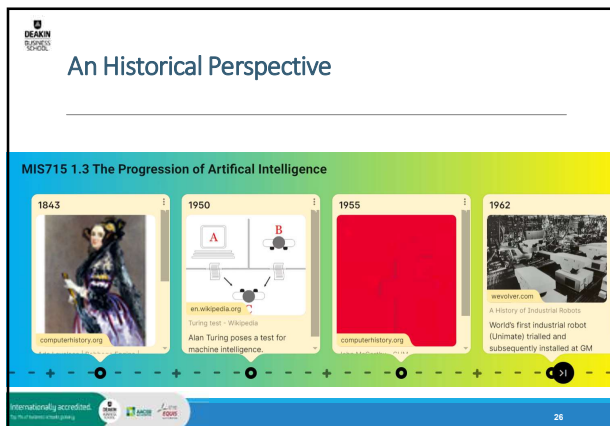
1. WATCH THE VIDEO "IDEEPMIND TAKES A STEPS TOWARD GENERAL AI" UNDER SECTION 1.2 ON THE UNIT SITE

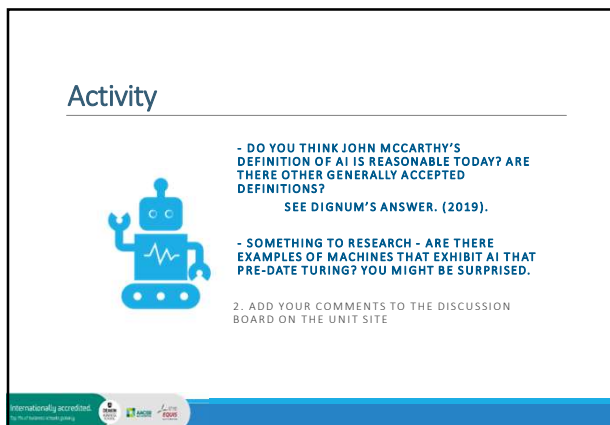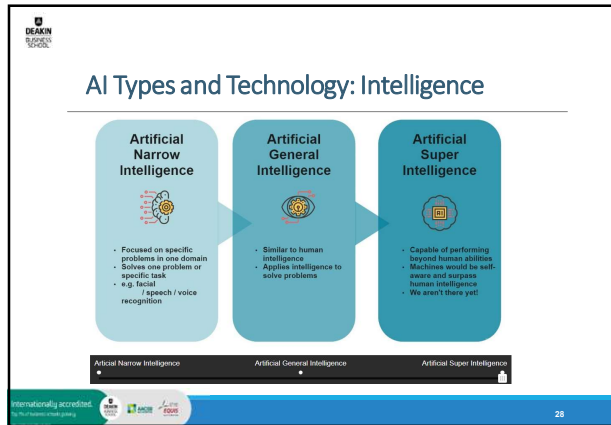2. ADD YOUR COMMENTS TO THE DISCUSSION BOARD ON THE UNIT SITE

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An Historical Perspective of AI

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An Historical Perspective

MIS715 1.3 The Progression of Artifical Intelligence

1843	1950	1955	1962
computerhistory.org	en.wikipedia.org Turing test – Wikipedia Alan Turing poses a test for machine intelligence.	computerhistory.org	wevolver.com A History of Industrial Robots World's first industrial robot (Unimate) trialled and subsequently installed at GM

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Activity

– DO YOU THINK JOHN MCCARTHY'S DEFINITION OF AI IS REASONABLE TODAY? ARE THERE OTHER GENERALLY ACCEPTED DEFINITIONS?

SEE DIGNUM'S ANSWER. (2019).

– SOMETHING TO RESEARCH – ARE THERE EXAMPLES OF MACHINES THAT EXHIBIT AI THAT PRE-DATE TURING? YOU MIGHT BE SURPRISED.

2. ADD YOUR COMMENTS TO THE DISCUSSION BOARD ON THE UNIT SITE

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Ethics and
Regulations
Perspective

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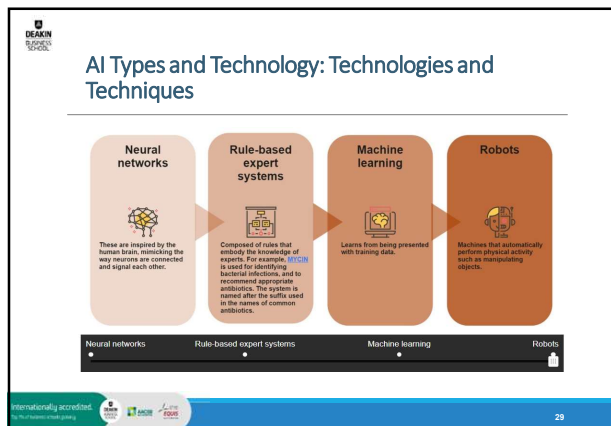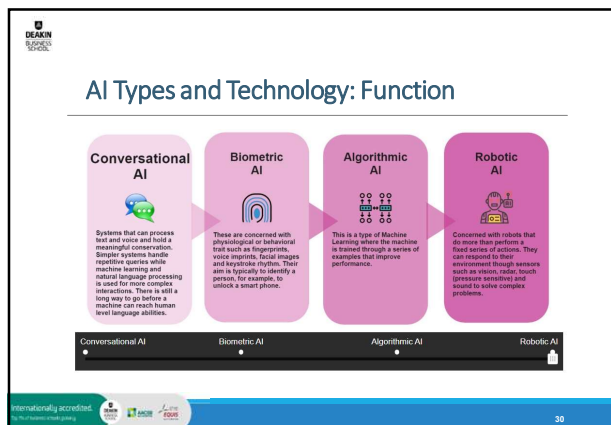
Principles and standards have a role to play in developing global legal norms related to the development and application of AI

Emerging technologies have always presented a problem for regulatory frameworks, often evolving piece meal over time and always behind leading edge technology

AI is a challenging technology for regulatory systems because machine learning AI systems have the ability 'to learn', adapt their performances and 'make decisions' from data and 'life experiences

Ethics and Regulations Perspective

We have reached a point in history where generally held principles related to the use of AI should be enshrined in ethical practice.

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Ethics and Regulations

Read	Let's have a look at 1.5 Ethics and Regulations on the unit site.
Watch	Watch the following 6-minute video by UNESCO as they explore the challenges and governance of ethics in AI.
Undertake	Undertake the class activity

We will discuss overview of Responsible AI further in this week's seminars.

THANK YOU!

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