COIT29225 *Neural Networks and Deep Learning*
Term 2 - 2026

Profile information current as at 23/01/2025 01:25 pm

General Information

Overview
Artificial Intelligence (AI) is becoming an important part of software development. Neural networks and Deep Learning are the main contributors to the recent advances in applications of Artificial Intelligence. Deep Learning enables computers to learn complicated concepts by building them out of a hierarchy of simpler ones. Deep Learning techniques have been successfully applied to a broad field of applications such as computer vision, image and video recognition, natural language processing, and medical diagnosis. This unit introduces you to the fundamentals of Deep Learning and how it can solve problems in many areas. In this unit, you will learn the architecture of neural networks and algorithms, including the latest Deep Learning techniques. You will learn to develop conventional neural networks such as multilayer perceptrons, and convolutional neural networks. You will use software to train and deploy neural networks. You will also identify practical applications of Deep learning by exploring recent case studies.

Details
Career Level: *Postgraduate*
Unit Level: *Level 9*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites
Pre-requisite: COIT20277 Introduction to Artificial Intelligence
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 2 - 2026

- Online

Attendance Requirements
All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website
This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Information for Class and Assessment Overview has not been released yet.
This information will be available on Monday 18 May 2026

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses
Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Teaching Evaluation

Feedback
It is better to use code to illustrate the lecture content.

Recommendation
For individual weeks, we can add Python code to explain relevant machine learning algorithms.

Feedback from Self-Reflection

Feedback
The content can be further enriched by adding extended materials on image analysis using OpenCV libraries.

Recommendation
Adding appropriate new materials on using OpenCV for image analysis applications.

Unit Learning Outcomes

Information for Unit Learning Outcomes has not been released yet.
This information will be available on Monday 18 May 2026

Alignment of Learning Outcomes, Assessment and Graduate Attributes

Information for Alignment of Learning Outcomes, Assessment and Graduate Attributes has not been released yet.
This information will be available on Monday 18 May 2026

Textbooks and Resources

Information for Textbooks and Resources has not been released yet.
This information will be available on Monday 22 June 2026

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.
This unit profile has not yet been finalised.