ICTAII501 Automate work tasks using machine learning

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with the Information and Communications Technology Training Package Version 8.0. Newly created unit of competency to address in-demand skills needs.

Application

This unit describes the skills and knowledge required to use machine learning (ML) principles and techniques to support the automation of procedural tasks and improve organisational productivity.

The unit applies to individuals who may work across a wide range of information and communications technology (ICT) roles, including support technicians, system administrators, programmers and cloud computing engineers.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Artificial intelligence

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Organise required ML dataset	1.1 Confirm ML work brief and tasks according to organisational policies and procedures
	1.2 Compare structured, unstructured, labelled and unlabelled machine training data according to work brief
	1.3 Randomise, deduplicate and check machine training data for imbalances and biases
	1.4 Analyse unbiased and biased dataset considerations according to work brief
	1.5 Divide data into training subset and evaluation subset

ELEMENT	PERFORMANCE CRITERIA
	according to work brief
2. Review data algorithms	2.1 Confirm that data is correctly grouped as labelled or unlabelled
	2.2 Analyse regression algorithms, decision trees or neural net algorithms for labelled data, where required
	2.3 Analyse clustering, association, instance-based or neural network algorithms for unlabelled data, where required
	2.4 Document analysis findings according to organisational policies and procedures
	2.5 Select algorithm for dataset according to analysis findings
3. Create ML model	3.1 Confirm expected ML outputs with required personnel
	3.2 Run variables through selected algorithm according to work brief
	3.3 Compare expected and actual ML outputs
	3.4 Adjust algorithm and re-run variables through selected algorithm according to work brief
	3.5 Confirm that new algorithm outputs yield accurate output results
	3.6 Compare expected and final outputs with required personnel
4. Use ML model for scoring	4.1 Configure ML model into existing systems according to organisational policies and procedures
	4.2 Run organisational data through algorithm according to work brief
	4.3 Secure and save ML model according to organisational policies and procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Reading	• Interprets meaning from a range of texts to assist in promoting work-related ML
Writing	• Uses appropriate vocabulary, grammatical structure and conventions when developing documentation
Oral communication	• Asks questions and actively listens to share and compare outputs with others
	• Explains information using structure and language appropriate

	to audience
Problem solving	• Applies problem-solving processes to identify actions required to support organisational productivity

Unit Mapping Information

No equivalent unit. Newly created unit.

Links

Companion Volume Implementation Guide is found on VETNet - -
https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2