Australian Government

Assessment Requirements for ICTAII502 Train and evaluate machine learning models

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.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- train at least one machine learning (ML) model, where the work must include one of the following:
  - training using unsupervised ML techniques
  - training using supervised ML techniques
- evaluate the operations of at least one the above trained ML models, where the evaluation must include one of the following:
  - unsupervised ML techniques
  - supervised ML techniques.

In the course of the above, the candidate must:

- produce documentation of all performed work tasks in required organisational formats
- apply required organisational policies and procedures.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key features and functions of supervised and unsupervised ML techniques
- key features and functions of ML, including:
  - data sources
  - training, validation and test data
  - attribute names
  - target data

  - default and non-default parameters
  - feature engineering
  - learning algorithms
  - model sizes
  - metrics
- procedures for training, testing and validating data parameters
- key methods to determine ML deployment requirements for end users, including:
  - cross-industry standard process for data mining (CRISP-DM) methodology
  - software development methodology
- method to determine predictive accuracy of ML models using target data
- method to compare predictions returned by ML models against known target values
- key features and functions of industry-recognised ML models that may be trained and evaluated
- organisational formats used for documenting ML model evaluations
- organisational policies and procedures, and legislative requirements relating to work tasks.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- industry-recognised ML models that may be trained and evaluated
- software in which ML models can be trained, validated, tested and evaluated
- work brief and organisational policies and procedures required to demonstrate the performance evidence.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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