

Specification of Competency Standards
for the Information & Communications Technology Industry
Unit of Competency

Functional Area - Data Science

Title	Perform model training, testing and validation in evaluating and optimising the model based on various metrics
Code	111146L6
Range	This UoC involves performing model training, testing and validation to evaluate the model by modifying the parameters based on various metrics to obtain an appropriate and/or optimised model
Level	6
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Understand the needs of model training, testing and validation</p> <ul style="list-style-type: none"> • Be able to: <ul style="list-style-type: none"> ○ have to knowledge of model training, testing and validation ○ have knowledge of various evaluation methods and tools to evaluate the model based on various metrics (See Remark 1) <p>2. Create a model evaluation plan to test model quality and validity</p> <ul style="list-style-type: none"> • Be able to: <ul style="list-style-type: none"> ○ create model evaluation plan with procedures or mechanisms to test model quality and validity by using separate data set in train, validation sets and test sets based on various metrics <p>3. Perform model training, testing and validation and evaluate the model</p> <ul style="list-style-type: none"> • Be able to: <ul style="list-style-type: none"> ○ perform model training, testing, validation and evaluation by modifying the parameters based on the model evaluation plan to obtain an appropriate and/or optimised model
Assessment Criteria	<p>The integrated outcome requirement of this UoC are the abilities to:</p> <ul style="list-style-type: none"> • have knowledge of model training, testing and validation, create the model evaluation plan based on various metrics • perform model training, testing and validation to evaluate the model by modifying the parameters based on model evaluation plan to obtain an appropriate and/or optimised model with appropriate model quality and validity
Remark	1. The evaluation metrics include (but not limited to) performance, fairness, explainability, robustness, safety, etc.