

SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – ARTIFICIAL INTELLIGENCE/MACHINE LEARNING ENGINEER				
<b>Sector</b>	Infocomm Technology			
<b>Track</b>	Data and Artificial Intelligence			
<b>Sub-track</b>	Machine Learning Engineering			
<b>Occupation</b>	Artificial Intelligence/Machine Learning Engineer			
<b>Job Role</b>	<b>Artificial Intelligence/Machine Learning Engineer</b>			
<b>Job Role Description</b>	<p>The Artificial Intelligence /Machine Learning Engineer supports the production of scalable and optimised artificial intelligence (AI)/machine learning (ML) models. He/She focuses on building algorithms for the extraction, transformation and loading of large volumes of real-time, unstructured data in order to deploy AI/ML solutions from theoretical data science models. He runs experiments to test the performance of deployed models, and identifies and resolves bugs that arise in the process.</p> <p>He works in a team setting and is proficient in statistics, scripting and programming languages required by the organisation. He is also familiar with the relevant software platforms in which the models are deployed. He should be knowledgeable of the requirements under the Model AI Governance Framework and the Personal Data Protection Act (PDPA) in the course of his work on AI/ML models.</p> <p>The AI/ML Engineer is a determined individual who is comfortable working with large data sets, has a keen interest in problem solving and experimentation, and enjoys the iterative process of development and resolving issues.</p>			
<b>Critical Work Functions, Key Tasks and Performance Expectations</b>	<b>Critical Work Functions</b>	<b>Key Tasks</b>	<b>Performance Expectations</b>	
	<b>Conduct research on artificial intelligence (AI)/machine learning (ML) models and algorithms</b>	Research and implement ML algorithms and tools for AI/ML model development	In accordance with: <ul style="list-style-type: none"> <li>Model AI Governance Framework</li> <li>Personal Data Protection Act 2012, Personal Data Protection Commission</li> </ul>	
		Identify appropriate algorithms based on user requirements		
		Select appropriate datasets and data representation methods for analysis		
		Evaluate AI/ML models for production		
	<b>Build and assess AI/ML models</b>	Develop codes to package the AI/ML models for scaling		
		Develop AI/ML development pipeline and infrastructure		
		Develop scalable data pipelines to extract, transform, load and integrate unstructured data from various sources		
		Scale AI/ML models for production		
		Support continuous improvement of AI solutions		
	<b>Deploy AI/ML models in solutions</b>	Test the operation and performance of the deployed models		
		Identify bugs during deployment and create bug fixes to address issues		
		Engage in code reviews to improve AI/ML models		
Perform statistical analysis and fine tuning of the models using test results				
Prepare documentation to outline data sources, models and algorithms used and developed				
Research and implement machine learning algorithms and tools for AI/ML model development				
<b>Skills and Competencies</b>	<b>Technical Skills and Competencies</b>		<b>Generic Skills and Competencies</b>	
	Business Needs Analysis	Level 4	Leadership	Intermediate
	Cloud Computing	Level 3	Developing People	Intermediate

	Computational Modelling	Level 3	Transdisciplinary Thinking	Intermediate
	Computer Vision Technology	Level 4	Computational Thinking	Intermediate
	Configuration Tracking	Level 3	Communication	Intermediate
	Data Design	Level 4		
	Data Engineering	Level 3		
	Data Governance	Level 4		
	Data Strategy	Level 4		
	Database Administration	Level 3		
	Emerging Technology Synthesis	Level 4		
	Intelligent Reasoning	Level 4		
	Pattern Recognition Systems	Level 4		
	Project Management	Level 4		
	Security Architecture	Level 3		
	Self-Learning Systems	Level 4		
	Stakeholder Management	Level 4		
	System Integration	Level 3		
	Test Planning	Level 3		
	Text Analytics and Processing	Level 4		
<b>Programme Listing</b>	For a list of Training Programmes available for the ICT sector, please visit: <a href="http://www.skillsfuture.sg/skills-framework/ict">www.skillsfuture.sg/skills-framework/ict</a>			

The information contained in this document serves as a guide.