

SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – DATA SCIENTIST/ARTIFICIAL INTELLIGENCE SCIENTIST			
Sector	Infocomm Technology		
Track	Data and Artificial Intelligence		
Sub-track	Data Science/Artificial Intelligence Science		
Occupation	Data Scientist/Artificial Intelligence Scientist		
Job Role	Data Scientist/Artificial Intelligence Scientist		
Job Role Description	<p>The Data Scientist/Artificial Intelligence Scientist plans and leads the development of new and advanced data analytic techniques, methodologies and analytical solutions from design, prototyping and testing. He/She identifies and develops core data and artificial intelligence (AI) science components for the delivery of projects, architects specialised database and computing environments, explores and visualises complex data set to provide incremental business value. He extracts and integrates data from various sources, and creates advanced models and algorithms suitable for the business use case. He conducts testing on data and AI models, interprets findings from testing, and evaluates model performance for scaling and deployment. He develops compelling and logically structured communication materials to facilitate stakeholder buy-in.</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 on which the solution is deployed on.</p> <p>The Data Scientist/AI Scientist has strong analytical and critical thinking skills to identify and solve problems. He is passionate about analysing and resolving complex business problems, displaying intellectual curiosity towards using data and AI to address business needs and challenges. He is a data storyteller, and is able to influence key stakeholders and spearhead a data driven approach to resolve business issues.</p>		
Critical Work Functions, Key Tasks and Performance Expectations	Critical Work Functions	Key Tasks	Performance Expectations
	Manage data preparation and modelling	Define objectives and hypothesis for research on data and artificial intelligence (AI) models	<ul style="list-style-type: none"> In accordance with: <ul style="list-style-type: none"> Model AI Governance Framework
		Analyse the ways in which datasets may be biased and address this in safety measures and deployment strategies	
		Conduct extraction and integration of data including features from different data sources	
		Develop multiple models and algorithms suitable for the use case	
		Perform model comparison to draw inferences on variable importance	
		Select the best model based on pre-defined evaluation criteria	
		Account for data ethics and policies in model selection and evaluation process	
		Interpret and evaluate model performance for scaling and deployment	
	Build and assess models	Conduct testing on final model in real-time business conditions prior to deployment	
		Scale and deploy models in real-time business conditions for end user consumption	
		Initiate autonomous monitoring to scale human oversight	
		Document modelling techniques used and assumptions made against test outcomes	
		Enable end user capability to use AI/ Data Science products effectively	
	Present data driven business value of data science/AI models	Create reports and deliverables based on insights derived from the model results	
Develop compelling, logically structured presentations including story-telling of research and/or analytics findings to secure stakeholder commitment			

	Contribute to the creation of leading-edge resources, including playbooks, guides, blog posts, videos, etc.					
Skills and Competencies	Technical Skills and Competencies		Generic Skills and Competencies			
	Business Innovation	Level 5	Leadership	Advanced		
	Business Needs Analysis	Level 5	Developing People	Intermediate		
	Computational Modelling	Level 5	Computational Thinking	Advanced		
	Computer Vision Technology	Level 4	Communication	Intermediate		
	Data Design	Level 5	Transdisciplinary Thinking	Advanced		
	Data Ethics	Level 5				
	Data Governance	Level 5				
	Data Strategy	Level 5				
	Design Thinking Practice	Level 5				
	Emerging Technology Synthesis	Level 4				
	Intelligent Reasoning	Level 5				
	Pattern Recognition Systems	Level 5				
	Project Management	Level 5				
	Quality Standards	Level 5				
	Self-learning Systems	Level 4				
	Solution Architecture	Level 5				
	Software Design	Level 5				
	Stakeholder Management	Level 4				
	Test Planning	Level 5				
Text Analytics and Processing	Level 6					
Programme Listing	For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-framework/ict					

The information contained in this document serves as a guide.