SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – ARTIFICIAL INTELLIGENCE APPLIED RESEARCHER			
Sector	Infocomm Technology		
Track	Data and Artificial Intelligence		
Sub-track	Artificial Intelligence Applied Research		
Occupation	Artificial Intelligence Applied Researcher		
Job Role	**Artificial Intelligence Applied Researcher**		
Job Role Description	The Artificial Intelligence Applied Researcher is responsible for the design and conduct of artificial intelligence (AI) research and development, synthesising insights to identify potential use cases of AI for the business. He/She presents AI research and development outcomes to senior management, business stakeholders at public forums. He determines the patentability of AI solutions and assists in the process for obtaining intellectual property rights for AI solutions. 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 solutions are deployed. The AI Applied Researcher has a strong passion and curiosity for uncovering the possibilities of applying AI to address real-life business challenges and enhance organisation performance.		
Critical Work Functions, Key Tasks and Performance Expectations	**Critical Work Functions**	**Key Tasks**	**Performance Expectations**
	Conduct artificial intelligence (AI) research and development	Plan and design AI research and development projects	In accordance with: • Model AI Governance Framework • Personal Data Protection Act 2012, Personal Data Protection Commission
		Manage project plans and timelines for all active and incoming AI research projects	
		Evaluate AI research methodologies and processes to identify areas for improvement	
		Connect with academics and institutions to collaborate and build relationships	
		Review AI literature to identify emerging trends, methods, technologies and best practices	
		Synthesise research to identify potential use cases and new research and development activities	
		Document and present AI research and development outcomes to senior management and business stakeholders at public forums	
	Manage data collection and preparation	Ensure quality and suitability of data for AI research and development	
		Assess suitability of data extraction methods for research and development	
		Explore new data sources and techniques to enhance research and development outcomes	
		Analyse the ways in which datasets may be biased and address this in safety measures and deployment strategies	
	Build artificial intelligence (AI) models	Design experiments to test AI models	
		Lead the analysis, simulations and relevant testing procedures of AI models	
		Synthesise insights across AI research projects to identify new research topics	
		Lead prototype development of AI solutions for large scale deployment	
		Provide guidance to the team on developing new AI models using suitable learning and modelling methods	
		Enhance transparency of algorithms found in AI through concepts of explainability, repeatability and traceability	
		Perform preliminary analysis on patentability of AI solutions	

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	Manage intellectual property (IP) processes and procedures	Assist in the creation, application and assignment of IP legal rights for AI solutions	
		Assist in IP due diligence and landscape analysis to determine new IP for AI solutions	

	Technical Skills and Competencies		**Generic Skills and Competencies**	
Skills and Competencies	Business Innovation	Level 5	Leadership	Advanced
	Business Needs Analysis	Level 5	Developing People	Advanced
	Computer Vision Technology	Level 4	Communication	Intermediate
	Data Design	Level 5	Computational Thinking	Intermediate
	Data Ethics	Level 5	Lifelong Learning	Intermediate
	Data Governance	Level 5		
	Data Strategy	Level 5		
	Design Thinking Practice	Level 5		
	Emerging Technology Synthesis	Level 5		
	Intelligent Reasoning	Level 5		
	Organisational Design	Level 5		
	Pattern Recognition Systems	Level 5		
	Project Management	Level 5		
	Quality Standards	Level 5		
	Research	Level 4		
	Self-learning Systems	Level 4		
	Stakeholder Management	Level 4		
	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.

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