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| **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 | | | |
| **Manage intellectual property (IP) processes and procedures** | Perform preliminary analysis on patentability of AI solutions | | | |
| 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 | | | |
| **Skills and Competencies** | **Technical Skills and Competencies** | | | **Generic 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 | | | | | |
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| The information contained in this document serves as a guide. | | | | | | |