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| **SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – HEAD OF DATA SCIENCE AND ARTIFICIAL INTELLIGENCE** | | | | | | |
| **Sector** | Infocomm Technology | | | | | |
| **Track** | Data and Artificial Intelligence | | | | | |
| **Occupation** | Data Scientist/AI Scientist | | | | | |
| **Job Role** | **Head of Data Science and Artificial Intelligence** | | | | | |
| **Job Role Description** | The Head of Data Science and Artificial Intelligence formulates and implement data and artificial intelligence (AI) strategies to optimise business value derived from data assets. He/She guides the AI research direction to create new algorithms and models, and reviews the feasibility of translating research and development outcomes into data and AI solutions. He oversees the development of data and AI solutions for the business to inform strategy and planning, decision-making and drive performance. He identifies potential intellectual property commercialisation opportunities for AI solutions and/or models, and oversees the preparation and application for intellectual property rights.  He manages a team 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.  The Head of Data Science and Artificial Intelligence is a highly effective communicator, articulating the potential value and impact of data and AI solutions on the business and influencing key business stakeholders. He is a proactive and innovative individual, possessing a strong drive to succeed amidst an evolving business environment. He develops the data and AI team's technical and leadership capabilities, and ensures compliance to the organisation's data privacy policies, ethics and governance framework, and intellectual property legislation. | | | | | |
| **Critical Work Functions, Key Tasks and Performance Expectations** | **Critical Work Functions** | **Key Tasks** | | | | **Performance Expectations** |
| **Implement data and artificial intelligence (AI) strategy** | Formulate and implement strategies to identify, acquire and use appropriate data and AI models | | | | In accordance with:     * Model AI Governance Framework * Personal Data Protection Act 2012, Personal Data Protection Commission |
| Guide AI research direction based on the current and future needs of the organisation | | | |
| Drive implementation of new data management technologies | | | |
| Drive the organisation's AI research and development strategy and focus | | | |
| Communicate and ensure compliance to the organisation's data privacy policies, and ethics and governance framework | | | |
| Direct engagement initiatives to communicate the potential and value of data and AI across the organisation | | | |
| Review research and development outcomes to ensure alignment with the organisation's vision, mission and values, and data and AI strategy | | | |
| Establish internal policies and processes to perform regular model tuning to cater for changes in customer behaviour over time | | | |
| **Formulate objectives and requirements from a business perspective** | Develop feasibility analysis plans for AI and Data Science Projects based on business requirements and expected outcomes | | | |
| Synthesise insights from research on emerging trends, market developments and environmental scans to support feasibility analysis | | | |
| Approve proposed AI solution for development based on an evaluation of cost-benefit, competitive and feasibility analysis | | | |
| Communicate insights of feasibility analysis and relevant success strategies with key business stakeholders for decision making | | | |
| Build partnerships with key service partners and customers within and across industries to accelerate the adoption of Data Science and AI initiatives | | | |
| **Manage intellectual property (IP) strategies, processes and procedures** | Identify potential IP commercialisation opportunities for AI solutions and/or models | | | |
| Liaise with external vendors on preparation and finalisation of IP applications | | | |
| Ensure compliance to IP legislation and guidelines | | | |
| **Present data driven business value of data science/artificial intelligence (AI) models** | Present data and AI model development outcomes to key stakeholders | | | |
| Create leading-edge resources, including playbooks, guides, blog posts, videos, to advance data and AI within the organisation and for end-users | | | |
| Present insights of data and AI model to key stakeholders | | | |
| Articulate the potential business value and commercial impact derived from data and AI solutions | | | |
| **Manage people and organisation** | Review operational strategies, policies and targets across teams and projects | | | |
| Develop strategies for resource planning and utilisation | | | |
| Review the utilisation of resources | | | |
| Oversee the development of learning roadmaps for teams and functions | | | |
| Establish performance indicators to benchmark effectiveness of learning and development programmes against best practices | | | |
| Implement succession planning initiatives for key management positions | | | |
| **Skills and Competencies** | **Technical Skills and Competencies** | | | **Generic Skills and Competencies** | | |
| Budgeting | | Level 5 | Problem Solving | | Advanced |
| Business Agility | | Level 5 | Communication | | Advanced |
| Business Continuity | | Level 5 | Leadership | | Advanced |
| Business Innovation | | Level 6 | Interpersonal Skills | | Advanced |
| Business Needs Analysis | | Level 5 | Transdisciplinary Thinking | | Advanced |
| Business Performance Management | | Level 6 |  | | |
| Business Risk Management | | Level 5 |
| Change Management | | Level 5 |
| Computer Vision Technology | | Level 5 |
| Data Design | | Level 5 |
| Data Engineering | | Level 5 |
| Data Ethics | | Level 5 |
| Data Governance | | Level 5 |
| Data Strategy | | Level 5 |
| Emerging Technology Synthesis | | Level 5 |
| Intelligent Reasoning | | Level 5 |
| Learning and Development | | Level 6 |
| Manpower Planning | | Level 5 |
| Networking | | Level 5 |
| Organisational Analysis | | Level 5 |
| Pattern Recognition Systems | | Level 5 |
| People and Performance Management | | Level 5 |
| Performance Management | | Level 5 |
| Project Management | | Level 6 |
| Quality Standards | | Level 5 |
| Research | | Level 5 |
| Self-learning Systems | | Level 5 |
| Software Design | | Level 5 |
| Solution Architecture | | Level 5 |
| Stakeholder Management | | Level 5 |
| Strategy Implementation | | Level 4 |
| Strategy Planning | | Level 5 |
| Sustainability Management | | Level 5 |
| Text Analytics and Processing | | Level 5 |
| **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. | | | | | | |