|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – SENIOR ARTIFICIAL INTELLIGENCE/MACHINE LEARNING ENGINEER** | | | | | | | |
| **Sector** | Infocomm Technology | | | | | | |
| **Track** | Data and Artificial Intelligence | | | | | | |
| **Sub-track** | Machine Learning Engineering | | | | | | |
| **Occupation** | Artificial Intelligence/Machine Learning Engineer | | | | | | |
| **Job Role** | **Senior Artificial Intelligence/Machine Learning Engineer** | | | | | | |
| **Job Role Description** | The Senior Artificial Intelligence/Machine Learning Engineer oversees projects for the production of scalable and optimised artificial intelligence (AI)/machine learning (ML) models, and ensures communication and collaboration with appropriate stakeholders. He/She is responsible for evaluating techniques or algorithms used and ensuring performance of the models deployed, and guiding or coaching the team in achieving quality in technical areas of the projects.  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.  The Senior AI/Machine Learning Engineer is passionate about delivering end-to-end data projects, from scoping and discovery to post-deployment. He is skilled in stakeholder management, possesses the ability to communicate ideas and recommendations to and influence various internal stakeholders, both within and beyond the team. | | | | | | |
| **Critical Work Functions, Key Tasks and Performance Expectations** | **Critical Work Functions** | **Key Tasks** | | | | | **Performance Expectations** |
| **Develop artificial intelligence (AI)/machine learning (ML) models for production** | Evaluate AI/ML model scaling and packaging codes for refinement | | | | | In accordance with:     * Model AI Governance Framework * Personal Data Protection Act 2012, Personal Data Protection Commission |
| Assess performance of production-level AI/ML models for scalability | | | | |
| Manage AI/ML development pipeline and infrastructure | | | | |
| Lead the extraction, transformation, loading and integration of unstructured data for modelling | | | | |
| Review scaled AI/ML models to ensure desired performance can be achieved when deployed | | | | |
| Drive optimisation of AI solutions to increase performance | | | | |
| **Deploy AI/ML models** | Oversee the deployment of AI/ML solutions | | | | |
| Create test plans for post-deployment | | | | |
| Communicate deployment issues and resolution plans to stakeholders | | | | |
| Lead the development and deployment of supervised and/or unsupervised techniques for problem solving | | | | |
| **Manage AI/ML projects** | Plan the end-to-end deployment of AI/ML solutions from initial testing, deployment, to optimisation in terms of system performance and run time | | | | |
| Lead project estimations and code reviews | | | | |
| Set project timelines and work quality guidelines | | | | |
| Apply project management tools and processes to ensure project is cost-effective | | | | |
| Communicate project objectives at critical junctions to obtain buy-in from all stakeholders | | | | |
| Deliver scalable AI/ML solutions | | | | |
| **Skills and Competencies** | **Technical Skills and Competencies** | | | **Generic Skills and Competencies** | | | |
| Business Needs Analysis | | Level 5 | Leadership | | Advanced | |
| Change Management | | Level 4 | Developing People | | Intermediate | |
| Cloud Computing | | Level 4 | Transdisciplinary Thinking | | Advanced | |
| Computational Modelling | | Level 4 | Computational Thinking | | Intermediate | |
| Computer Vision Technology | | Level 5 | Communication | | Intermediate | |
| Configuration Tracking | | Level 4 |  | | | |
| Data Design | | Level 5 |
| Data Engineering | | Level 4 |
| Data Governance | | Level 5 |
| Data Strategy | | Level 5 |
| Database Administration | | Level 4 |
| Emerging Technology Synthesis | | Level 5 |
| Intelligent Reasoning | | Level 5 |
| Pattern Recognition Systems | | Level 5 |
| Problem Management | | Level 5 |
| Project Management | | Level 5 |
| Security Architecture | | Level 4 |
| Self-Learning Systems | | Level 5 |
| Stakeholder Management | | Level 5 |
| System Integration | | Level 4 |
| Test Planning | | Level 4 |
| 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 | | | | | | |
|  |  |  | |  |  | | |
| The information contained in this document serves as a guide. | | | | | | | |