

Overview

This standard identifies the competences you need to research, plan, develop and implement artificial intelligence (AI) solutions, ensuring that your work complies with all legal, statutory, industrial and organisational requirements.

You will be required to select data sources and produce data processing algorithms. A typical AI solution analyses its environment and takes actions in response, this often revolves around the use of algorithms that operate on a range of data sources. You will develop production scale algorithms to achieve the required outcomes.

This standard does not involve direct machine learning activities, which are covered in a separate standard.

You will be required to select and apply appropriate AI tools and techniques and apply a range of AI methods to solve specific problems. AI is a general-purpose technology with many potential applications, and so needs to be contextualised to solve or automate specific outcomes. You will develop new context driven algorithms that automate and optimise business processes and support or enhance human decision-making, testing their outcomes and comparing different approaches.

You will be expected to work to instructions, alone or in conjunction with others, taking personal responsibility for your own actions, and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide an understanding of the principles of AI, potential applications and use of tools, methods and trends. You will have an understanding of the AI solutions being developed and implemented, and at an adequate depth to provide a sound basis for carrying out the AI work to meet organisational needs. You will understand the application of Artificial Intelligence as a Service (AlaaS)

This role can be increasingly found in any sector or organisation and in particular those associated with the analyses of high-volume or complex data sets using advanced computational methods.

This activity is likely to be undertaken by people delivering AI solutions and developing associated infrastructure, tools and methods. This includes people working as AI Data Specialists, AI Data Technologists, Data Analysts, AI Data Engineers etc.

Performance criteria

You must be able to:

1. Plan and initiate new artificial intelligence solutions projects in order to deliver organisational benefits
2. Work closely with customers and stakeholders to gather, interpret and document their artificial intelligence solutions requirements
3. Evaluate artificial intelligence research findings and translate into actionable methods in the organisational context
4. Develop and implement scalable artificial intelligence applications and solutions that leveraging published API services to meet customer requirements
5. Select and apply AI programming languages, tools and methods in order to solve organisational problems
6. Develop, build and maintain the platforms and services that deliver artificial intelligence solutions using scalable infrastructures and high-performance networks
7. Develop new data sourcing and processing AI algorithms to serve the organisation
8. Identify best practice in AI data systems in order to improve artificial intelligence solution development
9. Disseminate artificial intelligence practices across the organisation, promoting professional development and use of best practice
10. Assess the risks and limitations associated with applications of artificial intelligence within given contexts
11. Test and document new artificial intelligence methods developed in order to determine their suitability for new business applications
12. Keep up to date with technological developments in artificial intelligence to enhance skills and respond to organisational needs
13. Operate in accordance with the regulatory, legal, ethical and governance standards when working with artificial intelligence solutions

Knowledge and understanding

You need to know and understand:

1. The ethical implications of artificial intelligence on society including technological unemployment and inequality
2. The roles and impact of artificial intelligence, data science and data engineering in industry and society
3. The legal, ethical, professional and regulatory frameworks which affect the development, and implementation of artificial intelligence solutions
4. How to design and deploy effective artificial intelligence techniques to meet the needs of the business and customers
5. The application of Artificial Intelligence as a Service (AlaaS)
6. Current artificial intelligence industry trends
7. How to apply advanced statistical and mathematical methods to artificial intelligence projects
8. Sources of error and bias, and how they may affect artificial intelligence solutions
9. How to evaluate artificial intelligence solutions via analysis of test data and results from research, feasibility, acceptance and usability testing
10. The organisational policies and procedures that relate to artificial intelligence work
11. The principles used to manage the design, development and deployment of new artificial intelligence products within the organisation
12. The principles used to create new instruments and applications for data sourcing and processing
13. High-performance networks and their effective use for implementing artificial intelligence solutions
14. The programming languages, tools and techniques applicable to artificial intelligence
15. The use of performance and accuracy metrics for model validation in artificial intelligence projects
16. How to communicate artificial intelligence concepts and present these in a manner appropriate to diverse audiences

Develop and implement artificial intelligence solutions

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