


7.2.4 Emerging job roles dashboards

Data Scientist/Engineer

 Estimated Time Horizon: Short-term

Trends Impacting This Role

Technology trends such as BIM Technology, Data Analytics & RPA, Digital Twin, Remote Monitoring and 5G, IoT & Smart Buildings.

Other Considerations

Companies seeking to leverage data to derive valuable insights for decision making, performance optimisation and problem solution, can take advantage of this specialised job role.

Responsibilities of the Role

The Data Scientist/Engineer is responsible for collecting, cleaning and analysing data to uncover patterns and provide valuable inputs that help solve real-world urban Design & Construction issues. The job holder will also utilise machine learning models to address issues with regards to Design & Construction. The job holder will use the data collected to identify and understand business problems and opportunities within the company and translate them into technical requirements.

Job Tasks

- Design, develop, validate, test and implement algorithms to perform statistical analyses which provide actionable inputs for the firm’s Design & Construction systems and processes
- Build, test, and maintain database pipeline architecture
- Monitor, review and enhance existing statistical models, while keeping abreast of emerging statistical models that can be leveraged on for data analysis
- Use statistical techniques and programming languages like Python, to collect, clean and analyse data
- Ensure compliance with data governance and company security policies

Technical Skills and Competencies

3D Modelling	Analytics and Computational Modelling	Artificial Intelligence Application	Autonomous Systems Technology Application
Building Information Modelling Application	Civil and Structural Engineering Management	Computational Design	Construction Technology
Continuous Improvement Management	Critical Thinking	Data Collection and Analysis	Design for Manufacturing and Assembly
Design Thinking Practice	Engineering Drawing and Design Specifications	Engineering Drawing Interpretation and Management	Integrated System Design and Application
Programming and Coding	Quality System Management	Robotic and Automation Technology Application	Structural Testing
Systems Thinking	Technical Inspection	Technology Application	Technology Scanning

Critical Core Skills

Collaboration Communication Problem Solving Transdisciplinary Thinking

Note: Skills highlighted are not exhaustive but have been preliminarily identified as potentially most pertinent to the job role and may be adjusted based on individual organisational strategy and needs.