


7.2.4 Emerging job roles dashboards

Computational Designer

 Estimated Time Horizon: Short-term

Trends Impacting This Role

Technology trends i.e., BIM Technology, Digital Twin, Modular Construction, and 5G, IoT & Smart Buildings

Other Considerations

Companies who are seeking support in developing and maintaining services that enable the automation of Design & Construction systems and processes can leverage this specialised job role.

Responsibilities of the Role

The Computational Designer is responsible for the development, maintenance and implementation of applications and services that support the organisation in achieving their goal of automating Design & Construction systems and processes. Job holders also ensures adherence to the requirements specified by the development, design and construction teams. Job holders will be involved in solving challenging problems through the application of technology.

Job Tasks

- ▶ Develop, maintain and implement applications and services to provide solutions for design and delivery problem statements given by clients
- ▶ Automate construction design tasks and apply computational strategies by encoding design decisions using various computer languages
- ▶ Communicate and coordinate with project teams and subject matter experts to develop 3D computational prototypes
- ▶ Conduct research to anticipate client's needs and expectations and keep abreast of the latest design and construction trends to stay ahead in the sector


Technical Skills and Competencies

3D Modelling	Analytics and Computational Modelling	Application Support and Enhancement	Applications Integration
Autonomous Systems Technology and Application	Building Information Modelling Application	Civil and Structural Engineering Management	Computational Design
Continuous Improvement Management	Design for Maintainability	Design for Manufacturing and Assembly	Design for Safety
Design Standards and Specification	Design Thinking Practice	Engineering Drawing and Design Specifications	Engineering Drawing Interpretation and Management
Green Building Strategy Implementation	Integrated Digital Delivery Application	Integrated System Design and Application	Material Studies and Production Processes
Project Management	Project Risk Management	Quality System Management	Research and Information Synthesis
Robotic and Automation Technology Application	Stakeholder Management	Workflow Digitalisation	

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.

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Critical Core Skills

Collaboration

Communication

Problem Solving

Transdisciplinary Thinking

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