



**VIT**<sup>®</sup>  
Vellore Institute of Technology  
(Deemed to be University under section 3 of UGC Act, 1956)

**School of Civil Engineering and Career Development Centre**

**Industry-Academia Partnership Convention - 2026**

**HACKATHON**

**Theme: Smart Urban Landscape Using AI and Digital Twin**

**DETAILED PROBLEM STATEMENT**

**Design Model/Prototype/Simulation Model for Smart Urban Landscape Using AI and Digital Twin**

Rapid urbanization has intensified challenges in urban landscapes, including insufficient energy and resource management, and unplanned infrastructure growth.

AI and Digital Twins help address these issues by analyzing real-time data to optimize energy usage and public services, thereby improving overall efficiency. They also create virtual replicas of cities, enabling planners to simulate scenarios, predict outcomes, and support the development of smart urban landscapes.

The problem statement is to develop an innovative landscape design model/ prototype/ simulation model for a smart urban landscape, preferably with the aid of AI and digital tools. The design shall incorporate one or more of the following factors: smart energy use, intelligent stormwater management, smart irrigation technologies, biodiversity restoration, and renewable energy integration.

The final submission should include a design model, prototype, or simulation model, along with a detailed methodology and clear alignment with the SDGs.

Participants are mandated to use trial/licensed/student versions of digital tools only.