

# SimulateIoT: Domain Specific Language to design, code generation and execute IoT simulation environments (Summary)\*

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## Summary of the Contribution

Developing, deploying and testing IoT projects require high investments on devices, fog nodes, cloud nodes, analytic nodes, hardware and software. However, in order to decrease the cost associated to develop and test the IoT system it can be previously simulated. Designing IoT simulation environments has been tackled focusing on low level aspects such as networks, nodes and so on more than focusing on the high level concepts related to IoT environments. Model-driven development aims to develop the software systems from domain models which capture at high level the domain concepts and relationships, generating from them the software artefacts by using code-generators. In this paper, a model-driven development approach, SimulateIoT, is proposed to define, generate code and deploy IoT systems simulations. Additionally, two case studies, focused on smart building and agriculture IoT systems, are presented to show the simulation expressiveness.

**Keywords:** IoT systems · IoT simulation · fog computing · model-driven development · model to text transformation · data analysis

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