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Specification and Description Language for Simulation

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Abstract

In this talk we will discuss the benefits of use a formal language (Specification and Description Language) to define simulation models, and eventually obtain an automatic codification of those models. We present some examples using the methodology and we will discuss the details of an specific implementation of a tool that understand the formalism (<http://sdlps.com>). The formal representation of a simulation model, will have strong benefits on multidisciplinary areas where, the unambiguous and complete definition of the hypotheses of the model, are key elements to assure the correctness of the model. Some typical areas where this methodology will be applied are environmental sciences, social sciences or computing, among others. On the talk we will present some examples of several of those areas, to identify the benefits form a practical perspective, along with a presentation of the language itself.



Short bio



Pau Fonseca i Casas teaches in the Department of statistics and operations research of the Universitat Politècnica de Catalunya. His teaching is in the area of simulation, the treatment of data and operations research and statistics. Holds a PhD in statistics and operations research of the Universitat Politècnica de Catalunya. He is the head of the environmental simulation area of InLab FIB (<http://inlab.fib.upc.edu/>) conducting simulation projects mainly related to industrial or environmental areas. He is a member of the Commission of the industry 4.0 of the engineers of Catalonia. He is the co-founder of Polyhedra Tech (<http://polyhedra.tech>), a company focused on providing

solutions to problems related to sustainability in SmartCities that commercializes, among other products and services, the environmental simulation system for building NECADA (<https://necada.com>). His research interests are the discrete simulation applied to industry the environment or the society, and the formal representation of those models, as well as the impact of the industry 4.0 in society.