



Research School for Operations
Management and Logistics

Recommender System of Assembly System Configurations

Daniel Guzman Vargas – Ghent University

This research focuses on the study and development of a Machine Learning methodology for the prediction of a high-level solution of a mathematical optimization problem. The study explores the basic requirements for such approach, such as the ratio sample size/input space size, the impact of different sample generation strategies, and the characteristics of the ML models in relation with the problem complexity and topology, and presents a discussion on different considerations for a validation approach. The discussion is centered around a specific use case that considers the selection of the necessary resources (tools, machinery, operators) for production in an assembly system for a given product mix and planning horizon.