

From Business Objectives to Analytics and Machine Learning Solutions: A Framework for Conceptual Modeling

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Abstract: *Analytical methods and machine learning are progressively being incorporated into all kinds of information systems. Despite the excitement around these technologies, contemporary firms nonetheless have trouble utilizing them to fully use their data and solve the company's challenges. Businesses must deal with a variety of challenges while developing business analytics and machine learning solutions, including requirements elicitation, design, development, and implementation. Although conceptual modelling and requirements engineering approaches to the process are important and relevant, little study has been done in this area. In this paper a conceptual modelling framework for business analytics and machine learning solutions that is shown and evaluated. The framework consists of instantiations, meta-models, techniques, design patterns and catalogues, rules, and recommendations. It is made up of three modelling perspectives that each reflect a distinct aspect of a solution or the perspective of a different role in the creation of such systems. Through the capture of stakeholders, strategic goals, choices, questions, and necessary insights, the Business View aids in the elicitation of business analytical needs. The Analytics Design View, which largely focuses on machine learning solutions, aids in the design of the solution by collecting algorithms, metrics, and quality criteria.*

Keywords: Machine Learning

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