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Implementing bibliometric analysis and topic modelling to inform curriculum development for engineering management

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Abstract

This paper aims to inform the course curriculum development for a master's degree in Engineering Management. Implementing a bibliometric analysis with topic modelling performed on relevant publications in the field of Engineering Management provides valuable inputs to the selection of content for a curriculum. Topic modelling is a form of unsupervised machine-learning-based natural language processing. The algorithm extracts main topics from the titles and abstracts of a wide range of papers published about Engineering Management. These topics are identified and compared, for validation, to current thinking about Engineering Management curriculums. This approach is implemented to ensure that the course content is relevant to the field of Engineering Management.