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A Methodology for the Assessment of Operator 4.0 Skills based on Sentiment Analysis and Augmented Reality

Dimitris Mourtzis[a,*], John Angelopoulos[a], Vasilis Siatras[a], Nikos Panopoulos[a]

[a]*Laboratory for Manufacturing Systems and Automation (LMS), Department of Mechanical Engineering and Aeronautics, University of Patras, Rio Patras 26504, Greece*

* Corresponding author. Tel.: +30-2610-910160; fax: +30+2610-997314, *E-mail address:* mourtzis@lms.mech.upatras.gr

Abstract

Human-Cyber-Physical Systems are the key to the successful operation of manufacturing systems. Consequently, the need for adequate assessment of human operators and tracking of their skills and competencies evolution emerges. Additionally, the advances in digital technologies encourage the development of supportive and adaptive frameworks for the operation of flexible manufacturing systems. This paper presents an Augmented Reality based methodology for the detailed evaluation of human skills and competencies based on the processing of raw textual data with a Natural Language Processing algorithm, aiming at the provision of technician guidance. The developed framework is tested and validated in an industrial environment.

Keywords: Skills and Competencies; Operator 4.0; Augmented Reality; Natural Language Processing