

Case Completion of Workflows for Process-Oriented Case-Based Reasoning

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Abstract. Cases available in real world domains are often incomplete and sometimes lack important information. Using incomplete cases in a CBR system can be harmful, as the lack of information can result in inappropriate similarity computations or incompletely generated adaptation knowledge. Case completion aims to overcome this issue by inferring missing information. This paper presents a novel approach to case completion for process-oriented case-based reasoning (POCBR). In particular, we address the completion of workflow cases by adding missing or incomplete dataflow information. Therefore, we combine automatically learned domain specific completion operators with generic domain-independent default rules. The empirical evaluation demonstrates that the presented completion approach is capable of deriving complete workflows with high quality and a high degree of completeness.

Keywords: process-oriented case-based reasoning, workflows, workflow completion, case completion, completion operators, completion rules

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