



Título: Automated verification of care pathways using constraint programming

Data: 07/10/2019

Horário: 14:00h

Local: Sala de Seminários - Bloco 942-A (GREat)

Resumo:

Clinical Pathways are used to standardize medical treatments. Specialists define these pathways using process-like notations that can ultimately be translated to formally defined languages. Bad construction of modeled care pathways can lead to satisfiability problems during the pathway execution. These problems can ultimately result in medical errors and need to be checked as formally as possible. Therefore, this study proposes a set of algorithms using a free open-source library dedicated to constraint programming allied with a DSL to encode and verify care pathways, checking four possible problems: states in deadlock, non-determinism, inaccessible steps and transitions with logically equivalent guard conditions. We then test our algorithms in 113 real care pathways used both in hospitals and surgeries. Using our algorithms, we were able to find 295 problems taking less than 1 second to

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Escrito por Secretaria MDCC

Sex, 27 de Setembro de 2019 15:27 - Última atualização Qua, 09 de Outubro de 2019 08:57

complete the verification on most pathways.

Banca:

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