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Coalgebras for Binary Methods

Hendrik Tews

Abstract

Coalgebras for endofunctors $C \rightarrow C$ can be used to model classes of object oriented languages. However, binary methods do not fit directly into this approach. This paper proposes an extension of the coalgebraic framework, namely the use of extended polynomial functors

$C^{\text{op}} \times C \rightarrow C$. This extension allows the incorporation of binary methods into coalgebraic class specifications. The paper also discusses how to define bisimulation for coalgebras of extended polynomial functors and proves some standard results.
