Tableau-Based Decision Procedures for Logics of Strategic Ability in Multiagent Systems

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We develop an incremental tableau-based decision procedure for the alternating-time temporal logic ATL and some of its variants. While running within the theoretically established complexity upper bound, we believe that our tableaux are practically more efficient in the average case than other decision procedures for ATL known so far. Besides, the ease of its adaptation to variants of ATL demonstrates the flexibility of the proposed procedure.

General information
State: Published
Organisations: Algorithms and Logic, Department of Informatics and Mathematical Modeling, University of the Witwatersrand
Authors: Goranko, V. (Intern), Shkatov, D. (Ekstern)
Pages: 3
Publication date: 2010
Main Research Area: Technical/natural sciences

Publication information
Journal: ACM Transactions on Computational Logic
Volume: 11
Issue number: 1
ISSN (Print): 1529-3785
Ratings:
BFI (2017): BFI-level 2
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 2
Scopus rating (2016): SJR 0.637 SNIP 1.327 CiteScore 1.4
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 0.743 SNIP 2.035 CiteScore 1.61
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 0.756 SNIP 1.699 CiteScore 1.45
BFI (2013): BFI-level 2
Scopus rating (2013): SJR 0.849 SNIP 1.876 CiteScore 1.51
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): SJR 0.884 SNIP 1.839 CiteScore 1.51
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): SJR 0.846 SNIP 1.765 CiteScore 1.44
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 2
Scopus rating (2010): SJR 1.146 SNIP 2.053
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 2
Scopus rating (2009): SJR 1.283 SNIP 3.376
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 2.139 SNIP 3.048
Scopus rating (2007): SJR 2.226 SNIP 2.777
Scopus rating (2006): SJR 1.251 SNIP 2.12
Scopus rating (2005): SJR 1.072 SNIP 2.852
Scopus rating (2004): SJR 0.833 SNIP 1.776
Original language: English
DOIs:
10.1145/1614431.1614434
Links:
http://tocl.acm.org/accepted/371shkatov.pdf
