

The MIT Press

Journals

[Sign In / Register](#)[Books](#)[Journals](#)[Digital](#)[Resources](#)[About](#)[Contact](#) 

Home | Computational Linguistics | List Article navigation
of Issues | Volume 37 , No. 4 |
Splittability of Bilexical Context-Free
Grammars is Undecidable



Quarterly (March,
June, September,
December)

160pp. per issue

6 3/4 x 10

Founded: 1974

2018 Impact

Factor: 1.319

2018 Google

Scholar h5-index:

32

ISSN: 0891-2017

E-ISSN: 1530-9312

Journal Resources

[Editorial Info](#)[Abstracting and
Indexing](#)[Release Schedule](#)[Advertising Info](#)

Author Resources

[Submission](#)[Guidelines](#)[Publication](#)[Agreement](#)

Splittability of Bilexical Context-Free Grammars is Undecidable

Mark-Jan Nederhof and
Giorgio Satta

Posted Online November 28, 2011

https://doi.org/10.1162/COLI_a_00079

© 2011 Association for Computational Linguistics

Computational Linguistics
Volume 37 | Issue 4 | December 2011
p.867-879

 **Download Options** 

Abstract Authors


Bilexical context-free grammars (2-LCFGs) have proved to be accurate models for statistical natural language parsing. Existing dynamic programming algorithms used to parse sentences under these models have running time of $O(|w|^4)$, where w is the input string.

A 2-LCFG is splittable if the left arguments of a lexical head are always independent of the right

Author Reprints

Reader Resources

- Rights and Permissions
- Most Read
- Most Cited

More About Computational Linguistics 

Metrics 

Open Access 




Computational Linguistics Computational Linguistics is Open Access. All content is freely available in electronic format (Full text HTML, PDF, and PDF Plus) to readers across the globe. All articles are published under a [CC BY-NC-ND 4.0 license](#). For more information on allowed uses, please view the [CC license](#).


arguments, and vice versa. When a 2-LCFGs is splittable, parsing time can be asymptotically improved to $O(|w|^3)$. Testing this property is therefore of central interest to parsing efficiency. In this article, however, we show the negative result that splittability of 2-LCFGs is undecidable.


Forthcoming

Most Read

[See More](#)

 **Lexicon-Based Methods for Sentiment Analysis** (14019 times)
Maite Taboada et al.
Computational Linguistics
Volume: 37, Issue: 2, pp. 267-307


 **Computational Linguistics and Deep Learning** (10513 times)
Christopher D. Manning
Computational Linguistics
Volume: 41, Issue: 4, pp. 701-707


 **Near-Synonymy and Lexical Choice** (3658 times)
Philip Edmonds et al.
Computational Linguistics
Volume: 28, Issue: 2, pp. 105-144


(Note that the Most Read numbers are based on the number of full text downloads over the last 12 months.)

Most Cited

[See More](#)

 **Lexicon-Based Methods for Sentiment Analysis** (436 times)
Maite Taboada et al.
Computational Linguistics
Volume: 37, Issue: 2, pp. 267-307

 **A Systematic Comparison of Various Statistical Alignment Models** (174 times)
Franz Josef Och et al.
Computational Linguistics
Volume: 29, Issue: 1, pp. 19-51

 **Opinion Word Expansion and Target Extraction through Double Propagation** (147 times)
Guang Qiu et al.
Computational Linguistics
Volume: 37, Issue: 1, pp. 9-27

(Note that the Most Cited numbers are based on Crossref's [Cited-by service](#) and reflect citation information for the past 24 months.)

 **Download** 
Options

Sign up for
Favorite  Alerts 

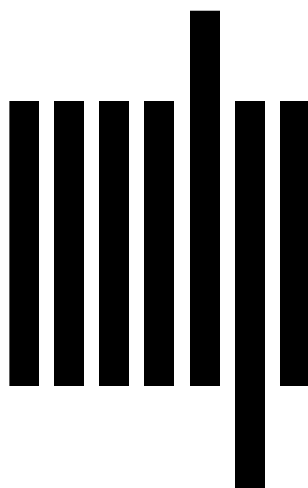
Download  RSS TOC 

Support OA
at MITP

Citation 

RSS Citation  Submit your
article

Support OA
at MITP 



Journals

Terms &
Conditions

Privacy
Statement

Contact
Us

Books

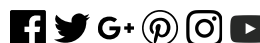
US

UK

Connect

One Rogers Street
Cambridge MA
02142-1209

Suite 2, 1 Duchess
Street London,
W1W 6AN, UK



© 2018 The MIT
Press
Technology Partner:
[Atypon Systems,
Inc.](#)
[CrossRef Member](#)
[COUNTER Member](#)
The MIT Press
colophon is
registered in the
U.S. Patent and
Trademark Office.
[Site Help](#)