

## Ryan Cotterell

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CONTACT INFORMATION	Department of Computer Science Johns Hopkins University Hackerman 321 3400 North Charles Street Baltimore, Maryland 21218, USA	<i>mobile:</i> (213) 905-2260 <i>email:</i> ryan.cotterell@jhu.edu <i>www:</i> ryancotterell.github.io
EDUCATION	<b>Johns Hopkins University</b> Ph.D. in Computer Science Advisors: Jason Eisner and David Yarowsky	Spring 2019 (Expected)
	<b>Ludwig-Maximilians-Universität München</b> Visiting Ph.D. Student Advisor: Hinrich Schütze	2014-2016
	<b>Johns Hopkins University</b> M.S.E. in Computer Science Advisor: Chris Callison-Burch GPA: 4.0	Spring 2017
	<b>Johns Hopkins University</b> B.A. in Cognitive Science Minor: Linguistics Advisor: Colin Wilson GPA: 3.87 ( <i>General Honors</i> ) Major GPA: 4.0 ( <i>Departmental Honors</i> )	Spring 2013
	<b>Faculty of Liberal Arts and Sciences of St. Petersburg State University</b> Study Abroad, St. Petersburg, Russia	Fall 2009
TEACHING	<b>Teaching Assistant</b> Johns Hopkins University Course: Automata and Computation Theory (600.271) Professor: Stephen Checkoway <i>I managed three course assistants and held weekly office hours.</i>	Spring 2014
	<b>Teaching Assistant</b> Johns Hopkins University Course: Natural Language Processing (600.465) Professor: Jason Eisner <i>I led weekly discussion sections to cement concepts and improve problem solving skills. I supervised three course assistants in grading the assignments.</i>	Fall 2013
GRANTS	<b>PURA (Provost Undergraduate Research Award)</b> Awarding body: Johns Hopkins University Amount: \$1,000 <i>Awarded to investigate phonological opacity in Portuguese and Turkish.</i>	
AWARDS	Runner-up for Best Paper at NAACL National Defense Science and Engineering Fellowship (NDSEG)	2016 2016-2018

Runner-up for Best Paper at EMNLP	2015
DAAD Long-term Research Grant, Germany	2015-2016
Fulbright Research Grant, Germany	2014-2015
George M.L. Sommerman Engineering Graduate Teaching Assistant Award Finalist	2014
Computer Science Department Outstanding Teaching Assistant	2014
Cognitive Science Undergraduate Research Award	2013

## PUBLICATIONS

### Refereed Journal Papers

1. Ryan Cotterell and Hinrich Schütze. 2017. [Joint Semantic Synthesis and Morphological Analysis of the Derived Word](#). *Transactions of the Association for Computational Linguistics (TACL)* 5.
2. Ryan Cotterell, Nanyun Peng, and Jason Eisner. 2015. [Modeling word forms using latent underlying morphs and phonology](#). *Transactions of the Association for Computational Linguistics (TACL)* 3:433–447. <https://tacl2013.cs.columbia.edu/ojs/index.php/tacl/article/view/480>.

### Refereed Conference Papers

3. Katharina Kann, Ryan Cotterell, and Hinrich Schütze. 2017. [Neural multi-source morphological inflection](#). In *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics (EACL)*. Association for Computational Linguistics, Valencia, Spain. <https://ryan cotterell.github.io/papers/kann+al.eacl17.pdf>.
4. Ryan Cotterell, Arun Kumar, and Hinrich Schütze. 2016. [Morphological segmentation inside-out](#). In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Association for Computational Linguistics, Austin, Texas, pages 2325–2330. <https://aclweb.org/anthology/D16-1256>.
5. Katharina Kann, Ryan Cotterell, and Hinrich Schütze. 2016. [Neural morphological analysis: Encoding-decoding canonical segments](#). In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Association for Computational Linguistics, Austin, Texas, pages 961–967. <https://aclweb.org/anthology/D16-1097>.
6. Tim Vieira, Ryan Cotterell, and Jason Eisner. 2016. [Speed-accuracy tradeoffs in tagging with variable-order crfs and structured sparsity](#). In *Proceedings of the 2016 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Association for Computational Linguistics, Austin, Texas, pages 1973–1978. <https://aclweb.org/anthology/D16-1206>.
7. Ryan Cotterell, Hinrich Schütze, and Jason Eisner. 2016. [Morphological smoothing and extrapolation of word embeddings](#). In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (ACL)*. Association for Computational Linguistics, Berlin, Germany, pages 1651–1660. <http://www.aclweb.org/anthology/P16-1156>.
8. Ryan Cotterell, Tim Vieira, and Hinrich Schütze. 2016. [A joint model of orthography and morphological segmentation](#). In *Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*. Association for Computational Linguistics, San Diego, California, pages 664–669. **Runner-up for Best Paper**. <http://www.aclweb.org/anthology/N16-1080>.
9. Pushpendre Rastogi, Ryan Cotterell, and Jason Eisner. 2016. [Weighting finite-state transductions with neural context](#). In *Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*. Association for Computational Linguistics, San Diego, California, pages 623–633. <http://www.aclweb.org/anthology/N16-1076>.
10. John. Sylak-Glassman and Ryan Cotterell. 2015. [Contrastive morphological typology and logical hierarchies](#). In Jessica Kantarovich, Tran Truong, and Orest Xherija, editors, *Proceedings*

of the 52nd Meeting of the Chicago Linguistic Society (CLS52), Chicago Linguistic Society. <https://ryancotterell.github.io/papers/sylak-glassman+cotterell.cls16.pdf>.

11. Nanyun Peng, Ryan Cotterell, and Jason Eisner. 2015. [Dual decomposition inference for graphical models over strings](#). In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing*. Association for Computational Linguistics, Lisbon, Portugal, pages 917–927. <http://aclweb.org/anthology/D15-1108>.
12. Thomas Müller, Ryan Cotterell, Alexander Fraser, and Hinrich Schütze. 2015. [Joint lemmatization and morphological tagging with Lemming](#). In *Proceedings of the 2015 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. Association for Computational Linguistics, Lisbon, Portugal, pages 2268–2274. <http://aclweb.org/anthology/D15-1272>. **Runner-up for Best Paper**.
13. Ryan Cotterell, Thomas Müller, Alexander Fraser, and Hinrich Schütze. 2015. [Labeled morphological segmentation with semi-markov models](#). In *Proceedings of the Nineteenth Conference on Computational Natural Language Learning (CoNLL)*. Association for Computational Linguistics, Beijing, China, pages 164–174. <http://www.aclweb.org/anthology/K15-1017>.
14. Ryan Cotterell and Jason Eisner. 2015. [Penalized expectation propagation for graphical models over strings](#). In *Proceedings of the 2015 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*. Association for Computational Linguistics, Denver, Colorado, pages 932–942. <http://www.aclweb.org/anthology/N15-1094>.
15. Ryan Cotterell and Hinrich Schütze. 2015. [Morphological word embeddings](#). In *Proceedings of the 2015 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT)*. Association for Computational Linguistics, Denver, Colorado, pages 1287–1292. <http://www.aclweb.org/anthology/N15-1140>.
16. Ryan Cotterell, Nanyun Peng, and Jason Eisner. 2014. [Stochastic contextual edit distance and probabilistic fst](#)s. In *Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics (ACL)*. Association for Computational Linguistics, Baltimore, Maryland, pages 625–630. <http://www.aclweb.org/anthology/P14-2102>.
17. Ryan Cotterell and Chris Callison-Burch. 2014. [A multi-dialect, multi-genre corpus of informal written arabic](#). In Nicoletta Calzolari (Conference Chair), Khalid Choukri, Thierry Declerck, Hrafn Loftsson, Bente Maegaard, Joseph Mariani, Asuncion Moreno, Jan Odijk, and Stelios Piperidis, editors, *Proceedings of the Ninth International Conference on Language Resources and Evaluation (LREC)*. European Language Resources Association (ELRA), Reykjavik, Iceland. <https://ryancotterell.github.io/papers/cotterell+callison-burch.lrec14.pdf>.

#### Refereed Workshop Papers

18. Ryan Cotterell, Christo Kirov, John Sylak-Glassman, David Yarowsky, Jason Eisner, and Mans Hulden. 2016. [The SIGMORPHON 2016 shared task morphological reinflection](#). In *Proceedings of the 14th SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology*. Association for Computational Linguistics, Berlin, Germany, pages 10–22. <http://anthology.aclweb.org/W16-2002>.
19. Matt Post, Gaurav Kumar, Adam Lopez, Damianos Karakos, Chris Callison-Burch, and Sanjeev Khudanpur. 2014. [Translations of the CALLHOME Egyptian Arabic corpus for conversational speech translation](#). In *Proceedings of the International Workshop on Spoken Language Translation (IWSLT)*. Association for Computational Linguistics, Lake Tahoe, USA. <https://ryancotterell.github.io/papers/kumar+al.iwslt14.pdf>.
20. Ryan Cotterell, Adithya Renduchintala, Naomi Saphra, and Chris Callison-Burch. 2014. [An Algerian Arabic-French code-switched corpus](#). In *Workshop on Free/Open-Source Arabic Cor-*

*pola and Corpora Processing Tools (OSACT)*. European Language Resources Association, Reykjavik, Iceland. <https://ryancotterell.github.io/papers/cotterell+al.osact14.pdf>.

## Technical Reports

21. David Etter, Francis Ferraro, Ryan Cotterell, Olivia Buzek, and Benjamin Van Durme. 2013. [Nerit: Named entity recognition for informal text](#). Technical Report 11, Human Language Technology Center of Excellence, Johns Hopkins University. <https://ryancotterell.github.io/papers/etter+al.tr13.pdf>.

## INVITED TALKS

1. Graphical Models over Strings. Universität Heidelberg. February, 2017.
2. Graphical Models over Strings. University of Alberta. October, 2016.
3. Graphical Models over Strings. Johns Hopkins University. September, 2016.
4. Modeling Word Forms Using Latent Underlying Morphs and Phonology. Universität Tübingen. July, 2016.
5. Modeling Word Forms Using Latent Underlying Morphs and Phonology. Xerox Research Centre Europe. December, 2015.
6. Modeling Word Forms Using Latent Underlying Morphs and Phonology. Priberam Labs. September, 2015.
7. A Probabilistic Approach to Synchronic Phonology. Institut für Phonetik und Sprachverarbeitung, LMU. November, 2014.

## SERVICE

Journal Reviewer: *Computational Linguistics* (2015)  
Conference Reviewer: EACL (2017), EMNLP (2016), COLING (2016), ACL (2016), NAACL (2016), AAAI (2016 secondary)  
CLSP Happy Hour Coordinator

## REFERENCES

Jason Eisner ([jason@cs.jhu.edu](mailto:jason@cs.jhu.edu)), Johns Hopkins University  
David Yarowsky ([yarowsky@jhu.edu](mailto:yarowsky@jhu.edu)), Johns Hopkins University  
Colin Wilson ([wilson@cogsci.jhu.edu](mailto:wilson@cogsci.jhu.edu)), Johns Hopkins University

## SKILLS

**Programming Languages:** Python, Cython, Java, Perl, Ocaml, Lisp, C, C++, R, Scala,  $\text{\LaTeX}$

**Languages:** English, German, Spanish, Russian, Portuguese

**Graduate Coursework:** Natural Language Processing, Speech Processing, Machine Learning, Artificial Intelligence, Programming Language Theory, Non-linear Optimization, Stochastic Optimization, Neural Networks, Real Analysis, Software Engineering, Representation Learning, Big Data, Bayesian Statistics.

January 4, 2017