

# Jonathan K. Kummerfeld

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jkummerf@umich.edu

- Education**      PhD in Computer Science      Aug 2010 – Aug 2016  
“Algorithms for Identifying Syntactic Errors and Parsing with Graph Structured Output”  
University of California, Berkeley  
Adviser: Dan Klein
- Bachelor of Science (Advanced) (Honours) Class I with University Medal      2006–2009  
“Adaptive Supertagging for Faster Parsing”  
University of Sydney  
Adviser: James Curran
- Publications**      Improving Text-to-SQL Evaluation Methodology  
C. Finegan-Dollak\*, **J. K. Kummerfeld\***, L. Zhang, K. R. D. Ramanathan, S. Sadasivam, R. Zhang and D. Radev  
*Association for Computational Linguistics*, 2018
- Factors Influencing the Surprising Instability of Word Embeddings  
L. Wendlandt, **J. K. Kummerfeld**, R. Mihalcea  
*North American Chapter of the Association for Computational Linguistics*, 2018
- Effective Crowdsourcing for a New Type of Summarization Task  
Y. Jiang, C. Finegan-Dollak, **J. K. Kummerfeld**, W. Lasecki  
*North American Chapter of the Association for Computational Linguistics*, 2018
- Data Collection for Dialogue System: A Startup Perspective  
Y. Kang, Y. Zhang, **J. K. Kummerfeld**, L. Tang, J. Mars  
*North American Chapter of the Association for Computational Linguistics*, 2018
- World Knowledge for Semantic Parsing with Abstract Meaning Representation  
C. Welch, **J. K. Kummerfeld**, S. Feng and R. Mihalcea  
*Language Resources and Evaluation Conference*, 2018
- Parsing with Traces: An  $O(n^4)$  Algorithm and a Structural Representation  
**J. K. Kummerfeld** and D. Klein  
*Transactions of the Association for Computational Linguistics*, 2017
- Identifying Products in Online Cybercrime Marketplaces: A Dataset for Fine-grained Domain Adaptation  
G. Durrett, **J. K. Kummerfeld**, T. Berg-Kirkpatrick, R. S. Portnoff, S. Afroz, D. McCoy, K. Levchenko, and V. Paxson  
*Empirical Methods in Natural Language Processing*, 2017
- Understanding Task Design Trade-offs in Crowdsourced Paraphrase Collection  
Y. Jiang, **J. K. Kummerfeld**, and W. S. Lasecki  
*Association for Computational Linguistics*, 2017
- Tools for Automated Analysis of Cybercriminal Markets  
R. S. Portnoff, S. Afroz, G. Durrett, **J. K. Kummerfeld**, T. Berg-Kirkpatrick, D. McCoy, K. Levchenko, and V. Paxson  
*International World Wide Web Conferenc*, 2017
- An Empirical Analysis of Optimization for Max-Margin NLP  
**J. K. Kummerfeld**, T. Berg-Kirkpatrick, and D. Klein  
*Empirical Methods in Natural Language Processing*, 2015

Error-Driven Analysis of Challenges in Coreference Resolution

**J. K. Kummerfeld** and D. Klein

*Empirical Methods in Natural Language Processing*, 2013

An Empirical Examination of Challenges in Chinese Parsing

**J. K. Kummerfeld**, D. Tse, J. R. Curran, and D. Klein

*Association for Computational Linguistics*, 2013

High-velocity Clouds in the Galactic All Sky Survey. I. Catalog

V. A. Moss, N. M. McClure-Griffiths, T. Murphy, D. J. Pisano, **J. K. Kummerfeld**, and J. R. Curran

*The Astrophysical Journal Supplement Series*, 2013, 209:12

Parser Showdown at the Wall Street Corral: An Empirical Investigation of Error Types in Parser Output

**J. K. Kummerfeld**, D. Hall, J. R. Curran, and D. Klein

*Empirical Methods in Natural Language Processing*, 2012

Robust Conversion of CCG Derivations to Phrase Structure Trees

**J. K. Kummerfeld**, D. Klein, and J. R. Curran

*Association for Computational Linguistics*, 2012

Mention Detection: Heuristics for the OntoNotes annotations

**J. K. Kummerfeld**, M. Bansal, D. Burkett, and D. Klein

*Conference on Natural Language Learning*, 2011

Faster Parsing by Supertagger Adaptation

**J. K. Kummerfeld**, J. Roesner, T. Dawborn, J. Haggerty, J. Curran, and S. Clarke

*Association for Computational Linguistics*, 2010

Morphological Analysis Can Improve a CCG Parser for English

M. Honnibal, **J. K. Kummerfeld**, and J. R. Curran

*International Conference on Computational Linguistics*, 2010

Spatiotemporal Hierarchy of Relaxation Events, Dynamical Heterogeneities, and Structural Reorganization in a Supercooled Liquid

R. Candelier, A. Widmer-Cooper, **J. K. Kummerfeld**, O. Dauchot, G. Biroli, P. Harrowell, and D. R. Reichman

*Physical Review Letters*, 2010, 105:135702

Faster Parsing and Supertagging Model Estimation

**J. K. Kummerfeld**, J. Roesner, and J. R. Curran

*Australasian Language Technology Association*, 2009

Classification of Verb Particle Constructions with the Google Web1T Corpus

**J. K. Kummerfeld** and J. R. Curran

*Australasian Language Technology Association*, 2008

The Densest Packing of AB Binary Hard-Sphere Homogeneous Compounds across all Size Ratios

**J. K. Kummerfeld**, T. S. Hudson, and P. Harrowell

*The Journal of Physical Chemistry B*, 2008, 112:10773–10776

**Grants,  
Awards, and  
Honors**

**Outstanding Postdoctoral Fellow Award**

2018

For excellence in research, mentorship, teaching, leadership, and service.

**Michigan Institute for Data Science Music Initiative**

2018

Co-PI on grant to develop models that map text to music (75k)

|   |   |                               |
|---|---|-------------------------------|
|   | <b>Allen Institute for AI Key Scientific Challenges Program</b>                   | 2017                          |
|   | Unrestricted funding to support research (10k)                                    |                               |
|   | <b>Chair's Special Award</b>  | 2013                          |
|   | For services to the EECS department during student admissions and recruitment     |                               |
|   | <b>Outstanding Graduate Student Instructor Award</b>                              | 2011                          |
|   | University wide award in recognition of exceptional achievements as a teacher     |                               |
|   | <b>General Sir John Monash Award</b>  | 2009                          |
|   | "Australia's most prestigious postgraduate scholarships"                          |                               |
|   | <b>University Medal in Computer Science</b>                                       | 2009                          |
|   | For outstanding results, awarded at the discretion of the university senate       |                               |
| <b>Employment</b>                                 | University of Michigan  | September 2016 – Present      |
|   | Postdoctoral Research Fellow in Computer Science Engineering.                     |                               |
|   | <b>Consultant / Technical Adviser</b>   |                               |
|   | Clinic  | January 2017 – Present        |
|   | Naming Matters  | May 2015 – Present            |
|   | WriteLab  | March 2014 – May 2018         |
|   | Acquired by Chegg in May 2018   |                               |
|   | Techbridge  | September 2013 - May 2014     |
|   | <b>Software Engineer – Intern</b>   |                               |
|   | Google Research – Mountain View, NLP team   | May - August 2012             |
|   | Google – Sydney, Infrastructure team  | December 2007 - February 2008 |
|   | <b>Research Assistant</b> , University of Sydney                                  |                               |
|   | School of Information Technologies, Prof. Kay                                     | 2010                          |
|   | School of Physics, Dr. Murphy   | 2010                          |
|   | School of Chemistry, Prof. Harrowell  | 2009                          |
|   | School of Letters, Art and Media, Dr. Bode  | 2008, 2009                    |
| <b>Teaching,<br/>Mentoring,<br/>Invited Talks</b> | <b>Instructor</b>   |                               |
|   | Artificial Intelligence, Berkeley   | Summer 2014                   |
|   | Co-taught upper division course – gave lectures, managed TAs, and prepared exams. |                               |
|   | Evaluation: 6.3 / 7 (top 11% of UCB EECS instructors with public results).        |                               |
|   | <b>Talks</b>  |                               |
|   | University of California, Berkeley, NLP Seminar                                   | February 2018                 |
|   | Midwest Speech and Language Days & CL Colloquium                                  | 2017, 2018                    |
|   | University of Macquarie, Centre for Language Technology                           | June 2016, August 2017        |
|   | Sydney Humans, Language, Technology MeetUp  | May 2016, August 2017         |
|   | University of Sydney  | May 2016                      |
|   | Information Sciences Institute, Natural Language Seminar                          | March 2016                    |
|   | CommonCrawl, Big Open Data Hackathon  | May 2014                      |
|   | Cambridge Computer Laboratory   | August 2013                   |
|   | Berkeley Syntax Circle  | 2012                          |
|   | <b>Guest Lecturer</b>   |                               |
|   | The Anatomy of Natural Language Processing Systems, Michigan                      | Winter 2018                   |
|   | The Beauty and Joy of Computing, Berkeley   | Summer 2014                   |
|   | Applied Natural Language Processing, Berkeley                                     | Fall 2013                     |
|   | Proseminar in the Digital Humanities, Berkeley                                    | Spring 2013                   |

**Michigan Undergraduate Research Opportunity Program Mentor**

|  |           |
|--|-----------|
| Hyun A. Chung (2nd year) - "Tweet Topic Classification"          | 2017-2018 |
| Orion Cleaver (2nd year) - "Coreference Resolution on Long Text" | 2017-2018 |
| Joseph Peper (transfer) - "Disentangling Online Chat"            | 2016-2017 |
| Thomas Searle (1st year) - "Analysing the Top Million Websites"  | 2016-2017 |

**Teaching Assistant**

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|---|-----------|
| Artificial Intelligence, Berkeley   | Fall 2011 |
| Held sections and office hours, prepared assignments, exams and sections. |           |

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| Artificial Intelligence (Advanced), Sydney                   | Fall 2009 |
| Held sections (third year elective Computer Science course). |           |

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| Informatics (Advanced), Sydney  | Fall 2009 |
| Held sections and graded assignments (first year core Computer Science course). |           |

**High School Outreach**

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|---|-----------|
| Australian Informatics Olympiad                               | 2007-2010 |
| Gave lectures, prepared exams and autograders, prepared labs. |           |

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| National Computer Science School  | 2007, 2008, 2010 |
| Led a group of 16 high school students, who learned python and built a search engine. |                  |

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| Computational Linguistics Olympiads | 2013, 2014, 2015, 2016 |
| Set problems for the competition.   |                        |

**Professional Service**

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|---|------|
| Dialog System Technology Challenges 7, Task Organiser | 2018 |
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**University Internal**

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|---|-----------|
| Hiring Committee for Research Investigator, Michigan Medical School | 2017      |
| Graduate Admissions Committee, Michigan Artificial Intelligence     | 2017      |
| Graduate Admissions Committee, Berkeley Artificial Intelligence     | 2015      |
| President, Berkeley Computer Science Graduate Student Association   | 2012-2013 |

**Journal Reviewer**

|  |      |
|--|------|
| Transactions of the Association for Computational Linguistics (TACL) | 2016 |
| Journal of Artificial Intelligence Research (JAIR)                   | 2017 |
| Computer Speech & Language (CSL)                                     | 2017 |

**Program Committee**

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|--|------------------------|
| Association for Computational Linguistics (ACL)                        | 2014 (2nd), 2017, 2018 |
| North American Chapter of the ACL (NAACL)                              | 2015, 2016, 2018       |
| European Chapter of the ACL (EACL)                                     | 2016, 2017             |
| Empirical Methods in Natural Language Processing (EMNLP)               | 2015, 2016, 2017, 2018 |
| International Joint Conference on Natural Language Processing (IJCNLP) | 2017                   |
| Association for the Advancement of Artificial Intelligence (AAAI)      | 2016                   |
| World Wide Web Conference (WWW)  | 2016                   |
| Conference on Natural Language Learning (CoNLL)                        | 2016, 2017, 2018       |
| Workshop on Noisy User-generated Text                                  | 2018                   |
| Workshop on Ethics in NLP  | 2017                   |
| Student Research Workshop at NAACL                                     | 2015, 2016, 2018       |
| Student Research Workshop at ACL                                       | 2014                   |
| Gen-Deep Workshop at NAACL   | 2018                   |