

# Jonathan K. Kummerfeld

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**Current** University of Michigan September 2016 – Present  
Postdoctoral Research Fellow in Computer Science Engineering.  
CROMA Lab (2018–Present), Sapphire Project (2016–2018)

**Education** PhD in Computer Science 2010–2016  
“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:** Crowdsourced Detection of Emotionally Manipulative Language  
**Conference** J. S. Huffaker, **J. K. Kummerfeld**, W. S. Lasecki, M. S. Ackerman  
**Proceedings** *CHI: Conference on Human Factors in Computing Systems*, 2020

No-Press Diplomacy: Modeling Multi-Agent Gameplay  
P. Paquette, Y. Lu, S. Bocco, M. O. Smith, S. Ortiz-Gagné, **J. K. Kummerfeld**,  
J. Pineau, S. Singh, A. Courville  
*NeurIPS: Advances in Neural Information Processing Systems*, 2019

An Evaluation for Intent Classification and Out-of-Scope Prediction  
S. Larson, A. Mahendran, J. J. Peper, C. Clarke, A. Lee, P. Hill, **J. K. Kummerfeld**,  
K. Leach, M. A. Laurenzano, L. Tang and J. Mars  
*EMNLP: Empirical Methods in Natural Language Processing*, 2019

A Large-Scale Corpus for Conversation Disentanglement  
**J. K. Kummerfeld**, S. R. Gouravajhala, J. Peper, V. Athreya, C. Gunasekara, J. Gan-  
hotra, S. S. Patel, L. Polymenakos, W. S. Lasecki  
*ACL: Association for Computational Linguistics*, 2019

SLATE: A Super-Lightweight Annotation Tool for Experts  
**J. K. Kummerfeld**  
*ACL Demo: Association for Computational Linguistics: Demonstrations*, 2019

Outlier Detection for Improved Data Quality and Diversity in Dialog Systems  
S. Larson, A. Mahendran, A. Lee, **J. K. Kummerfeld**, P. Hill, M. Laurenzano, J. Hauswald,  
L. Tang, J. Mars  
*NAACL: North American Chapter of the Association for Computational Linguistics*, 2019

Look Who’s Talking: Inferring Speaker Attributes from Personal Longitudinal Dialog  
C. Welch, V. Perez-Rosas, **J. K. Kummerfeld**, R. Mihalcea  
*CICLing: Computational Linguistics and Intelligent Text Processing*, 2019  
**Best Student Paper Award**

Improving Text-to-SQL Evaluation Methodology  
C. Finegan-Dollak\*, **J. K. Kummerfeld\***, L. Zhang, K. R. D. Ramanathan, S. Sadasi-  
vam, R. Zhang, D. Radev  
*ACL: Association for Computational Linguistics*, 2018

Factors Influencing the Surprising Instability of Word Embeddings  
L. Wendlandt, **J. K. Kummerfeld**, R. Mihalcea

*NAACL: 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

*NAACL: 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**, P. Hill, J. Hauswald, M. A. Laurenzano, L. Tang, J. Mars

*NAACL: 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, R. Mihalcea

*LREC: Language Resources and Evaluation Conference*, 2018

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, V. Paxson

*EMNLP: Empirical Methods in Natural Language Processing*, 2017

Understanding Task Design Trade-offs in Crowdsourced Paraphrase Collection

Y. Jiang, **J. K. Kummerfeld**, W. S. Lasecki

*ACL: 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, V. Paxson

*WWW: International World Wide Web Conferenc*, 2017

An Empirical Analysis of Optimization for Max-Margin NLP

**J. K. Kummerfeld**, T. Berg-Kirkpatrick, D. Klein

*EMNLP: Empirical Methods in Natural Language Processing*, 2015

Error-Driven Analysis of Challenges in Coreference Resolution

**J. K. Kummerfeld**, D. Klein

*EMNLP: Empirical Methods in Natural Language Processing*, 2013

An Empirical Examination of Challenges in Chinese Parsing

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

*ACL: Association for Computational Linguistics*, 2013

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

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

*EMNLP: Empirical Methods in Natural Language Processing*, 2012

Robust Conversion of CCG Derivations to Phrase Structure Trees

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

*ACL: Association for Computational Linguistics*, 2012

Mention Detection: Heuristics for the OntoNotes annotations

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

*CoNLL Shared Task: Conference on Natural Language Learning Shared Task*, 2011

Faster Parsing by Supertagger Adaptation

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

*ACL: Association for Computational Linguistics*, 2010

Morphological Analysis Can Improve a CCG Parser for English  
M. Honnibal, **J. K. Kummerfeld**, J. R. Curran  
*CoLing: International Conference on Computational Linguistics*, 2010

**Publications:** Overview of the seventh Dialog System Technology Challenge: DSTC7  
**Journals** L. F. D'Haro, K. Yoshino, C. Hori, T. K. Marks, L. Polymenakos, **J. K. Kummerfeld**,  
M. Galley, X. Gao  
*CSL: Computer Speech & Language*, 2020

Parsing with Traces: An  $O(n^4)$  Algorithm and a Structural Representation  
**J. K. Kummerfeld**, D. Klein  
*TACL: Transactions of the Association for Computational Linguistics*, 2017

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**,  
J. R. Curran  
*The Astrophysical Journal Supplement Series*, 2013, 209:12

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, D. R Reichman  
*PRL: Physical Review Letters*, 2010, 105:135702

The Densest Packing of AB Binary Hard-Sphere Homogeneous Compounds across all Size Ratios  
**J. K. Kummerfeld**, T. S. Hudson, P. Harrowell  
*The Journal of Physical Chemistry B*, 2008, 112:10773–10776

**Publications:** The Eighth Dialog System Technology Challenge  
**Workshops** S. Kim, M. Galley, C. Gunasekara, S. Lee, A. Atkinson, B. Peng, H. Schulz, J. Gao, J. Li, M. Adada, M. Huang, L. Lastras, **J. K. Kummerfeld**, W. S. Lasecki, C. Hori, A. Cherian, T. K. Marks, A. Rastogi, X. Zang, S. Sunkara, R. Gupta  
*NeurIPS Workshop on Conversational AI*, 2019

DSTC7 Task 1: Noetic End-to-End Response Selection  
C. Gunasekara, **J. K. Kummerfeld**, L. Polymenakos, W. S. Lasecki  
*DSTC: Dialog System Technology Challenges*, 2019

Dialog System Technology Challenge 7  
K. Yoshino, C. Hori, J. Perez, L. F. D'Haro, L. Polymenakos, C. Gunasekara, W. S. Lasecki, **J. K. Kummerfeld**, M. Galley, C. Brockett, J. Gao, B. Dolan, X. Gao, H. Alamari, T. K. Marks, D. Parikh, D. Batra  
*NeurIPS Workshop on Conversational AI*, 2018

Faster Parsing and Supertagging Model Estimation  
**J. K. Kummerfeld**, J. Roesner, J. R. Curran  
*ALTA: Australasian Language Technology Association*, 2009

Classification of Verb Particle Constructions with the Google Web1T Corpus  
**J. K. Kummerfeld**, J. R. Curran  
*ALTA: Australasian Language Technology Association*, 2008

**Grants, Awards, and Honors** **Bloomberg Data Science Research Grant** 2019  
Co-PI on grant to develop adaptive annotation methods  
**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)

**Allen Institute for AI Key Scientific Challenges Program** 2017  
Unrestricted funding to support research (10k)

**Chair's Special Award** 2013  
For services to the EECS department during student admissions and recruitment

**Outstanding Graduate Student Instructor Award** 2011  
University wide award in recognition of exceptional achievements as a teacher

**General Sir John Monash Award** 2009  
"Australia's most prestigious postgraduate scholarships"

**University Medal in Computer Science** 2009  
For outstanding results, awarded at the discretion of the university senate

**Employment** **Postdoctoral Research Fellow**  
University of Michigan September 2016 – Present

**Consultant / Technical Adviser**  
Naming Matters May 2015 – Present  
Cline January 2017 – February 2020  
WriteLab (acquired by Chegg) March 2014 – May 2018  
Techbridge September 2013 - May 2014

**Software Engineer – Intern**  
Google Research – Mountain View, NLP team May - August 2012  
Google – Sydney, Infrastructure team December 2007 - February 2008

**Research Assistant**  
U. Sydney, School of Information Technologies, Prof. Kay 2010  
U. Sydney, School of Physics, Dr. Murphy 2010  
U. Sydney, School of Chemistry, Prof. Harrowell 2009  
U. Sydney, School of Letters, Art and Media, Dr. Bode 2008, 2009

**Teaching, Mentoring, Invited Talks** **Instructor**  
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).

**Talks**  
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

**Guest Lecturer**

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

### **Undergraduate & Masters Mentor**

Olivia Garrahan (1st year), Michigan CROMA Lab	2018-2019
Thomas Searle (1st year), Michigan Undergraduate Research Opportunity	2016-2017
Hyun A. Chung (2nd year), Michigan Undergraduate Research Opportunity	2017-2018
Orion Cleaver (2nd year), Michigan Undergraduate Research Opportunity	2017-2018
Alexandra Wu (2nd year), Girls Encoded: Explore CS Research	Spring 2019
Yuyi Qu (2nd year), Girls Encoded: Explore CS Research	Spring 2019
Sophia He (2nd year), Michigan CROMA Lab	Fall 2018
Varun Kutirakulam (2nd year), Michigan CROMA Lab	Fall 2018
Joseph Peper (transfer), Michigan Undergraduate Research Opportunity	2016-2017
Jiyong Shim (3rd year), Berkeley NLP Lab	2013-2014
Philip Su (3rd year), Intern at Naming Matters	Summer 2015
Kejia Yang (Masters), Michigan CROMA Lab	2018-2019
Vignesh Athreya (Masters), Michigan Project Sapphire	Spring 2017

### **Teaching Assistant**

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

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

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

### **High School Outreach**

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

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

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

### **Professional Service**

DSTC: Dialog System Technology Challenges, Task Organiser	2018, 2019
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### **University Internal**

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**

TACL: Transactions of the Association for Computational Linguistics	2016
JAIR: Journal of Artificial Intelligence Research	2017
CSL: Computer Speech & Language	2017, 2019

### **Area Chair**

ACL: Association for Computational Linguistics	
Computational Social Science and Social Media	2020

### **Program Committee - Conferences**

ACL: Association for Computational Linguistics	2014 (2nd), 2016, 2017, 2018, 2019
NAACL: North American Chapter of the ACL	2015, 2016, 2018, 2019
EMNLP: Empirical Methods in Natural Language Processing	2015, 2016, 2017, 2018, 2019
EACL: European Chapter of the ACL	2017
AAAI: Association for the Advancement of Artificial Intelligence	2016, 2019
IJCAI: International Joint Conference on Artificial Intelligence	2019
CHI: Conference on Human Factors in Computing Systems	2019
UIST: ACM User Interface Software and Technology Symposium	2019 WWW /
WebConf: World Wide Web Conference	2016, 2019
IJCNLP: International Joint Conference on Natural Language Processing	2017
CoNLL: Conference on Natural Language Learning	2016, 2017, 2018, 2019

### **Program Committee - Workshops**

SRW: Student Research, NAACL	2015, 2016, 2018, 2019
SRW: Student Research, ACL	2014
IWPT: International Conference on Parsing Technologies	2020
EthNLP: Ethics in NLP	2017
RepEval: Evaluating Vector Space Representations for NLP	2019
NLP-CSS: NLP and Computational Social Science	2019
W-NUT: Noisy User-generated Text	2018, 2019
Gen-Deep: New Forms of Generalization in Deep Learning and NLP	2018
DeepLo: Deep Learning for Low Resource NLP	2019

### **Mentor**

Student Research Workshop at NAACL	2019
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