

# Jack Hessel

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## Education

- **Cornell University** Ithaca, New York  
*Ph.D. Candidate* 2014 - Present (2020 expected)
  - Advisor: Lillian Lee. Research interests: Machine learning, natural language processing, social interactions
- **Carleton College** Northfield, Minnesota  
*Bachelor of Arts, Magna Cum Laude, Computer Science + Statistics* 2010 - 2014

## Conference Papers

- Hessel, Jack, and Lillian Lee. “Something’s Brewing! Early Prediction of Controversy-causing Posts from Discussion Features.” NAACL 2019.
- Hessel, Jack, David Mimno, and Lillian Lee. “Quantifying the Visual Concreteness of Words and Topics in Multimodal Datasets.” NAACL 2018. (32% accept rate) ([link](#))
- Hessel, Jack, Lillian Lee, and David Mimno. “Cats and Captions vs. User Characteristics and the Clock: A Time-Controlled Analysis of Multimodal Content.” WWW 2017. (17% accept rate) ([link](#))
- Hessel, Jack, Chenhao Tan and Lillian Lee. “Science, AskScience and BadScience: On the Coexistence of Highly Related Communities.” ICWSM 2016. (17% accept rate) ([link](#))
- Hessel, Jack, and Sherri Goings. “Using Reproductive Altruism to Evolve Multicellularity in Digital Organisms.” In Advances in Artificial Life, ECAL 2013. (Oral presentation) ([link](#))

## Workshop Papers and Other Projects

- Hessel, Jack and David Mimno. “Aligning Images and Text in a Digital Library.” Extended abstract in Computer Vision in Digital Humanities Workshop at Digital Humanities 2017. ([link](#))
- Hessel, Jack, Alexandra Schofield, Lillian Lee, and David Mimno. “What do Vegans do in their Spare Time? Latent Interest Detection in Multi-Community Networks.” NIPS 2015 Networks Workshop. ([link](#))
- Hessel, Jack, Nicolas Saava, and Michael J Wilber. “Image Representations and New Domains in Neural Image Captioning.” EMNLP 2015 Vision/Language Workshop. ([link](#))
- Albright, Evan, Jack Hessel, Nao Hiranuma, Cody Wang, and Sherri Goings. “A Comparative Analysis of Popular Phylogenetic Reconstruction Algorithms.” MICS 2014. ([link](#))
- Under the supervision of Professor Kilian Weinberger, contributed to a parallelized/GPU support vector machine package ([tinyurl.com/wu-svm](http://tinyurl.com/wu-svm)) that accompanies Tyree et al.’s “Parallel Support Vector Machines in Practice.” ([link](#))

## Work and Service Experience

- **Google** Mountain View, California  
*NLP Research Intern with Bo Pang/Zhenhai Zhu* Summer 2019 (and Summer 2018)
  - Using Speech Signals to Caption Instructional Videos (in submission).
  - Video/language joint understanding (expected)
- **Carleton College** Northfield, MN  
*Visiting Instructor of Computer Science* Spring 2019
  - Teaching Natural Language Processing (CS 322) and Mathematics of Computer Science (CS 202).
- **Facebook** Menlo Park, California  
*Research Intern on Core Data Science Team with Amit Bahl* Summer 2017
  - Personalized language modeling; cross-modal retrieval
- **Twitter** New York, New York  
*Research Intern on Cortex Team with Clément Farabet* Summer 2016
  - Large-scale/multimodal node embeddings; language modeling; engagement prediction
- **Conference Reviewing**  
*Program Committees*
  - ACL (2016, 2017, 2018\*); NAACL (2018, 2019); EMNLP (2017, 2018\*); EACL (2017); AAAI (2017); ICWSM (2018) (\* indicates top reviewer award)
  - Workshops: Black in AI @ NIPS (2017, 2018); Student Research Workshop @ NAACL (2018); Noisy User-generated Text @ EMNLP (2018).
- **Cornell University** Ithaca, New York  
*Teaching Assistant*  
Language and Information (CS4300) [SP2016]; Machine Learning for Data Science (CS4786) [SP15]; Intro to Computer Graphics (CS4620) [FA14]; at Carleton College: Life in the Age of Networks Grader (CS108) [FA11]
- **Washington University** St. Louis, Missouri  
*NSF REU with Kilian Weinberger* Summer 2013

## Awards, Grants, and Invited Talks

|  |                              |
|--|------------------------------|
| Cornell Zillow Grant with David Mimno (85K)  | 2018                         |
| DHRX Graduate Speaker Invited Talk @ University of Pittsburgh                            | 2018                         |
| Nvidia Hardware Grant with D. Mimno/L. Lee   | 2015/2018                    |
| Cornell CS Outstanding TA Award  | 2015                         |
| Phi Beta Kappa, Beta of Minnesota  | 2014                         |
| Sigma Xi Inductee, Carleton College Chapter  | 2014                         |
| MICS Best Paper: <i>A Comparative Analysis of Phylogenetic Reconstruction Algorithms</i> | 2014                         |
| MICS Programming Contest 2nd place (60 teams)  | 2014                         |
| Carleton College Dean's List   | 2011 and 2013 Academic Years |
| Carleton College Academic Excellence Travel Grant  | 2012 and 2013                |

## Technical Skills

- *Machine Learning Skills:* Various machine learning/statistical toolkits/languages (e.g. sklearn, neural network libraries (e.g., Keras, PyTorch), R, etc.). Experience working with large, multi-faceted datasets.
- *Development Skills:* Object-oriented programming (Python, Java, C++), parallel programming experience on CPUs/Nvidia GPUs, experience with various languages, development environments, version control systems, operating systems.