

# Stephen Mussmann

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## EDUCATION

- **Stanford University** **Begin Fall, 2015**  
GPA: 4.18/4.3
  - PhD candidate in computer science.
  - Advisor: Percy Liang
- **Purdue University** **Graduated Spring, 2015**  
Graduation GPA: 4.0/4.0
  - Bachelor of Science Degree with Honors
  - Triple Major: Computer Science, Mathematics, and Statistics
  - Computer Science concentrations in Machine Intelligence and Foundations
  - Minor in Physics

## PUBLICATIONS

### **Uncertainty Sampling is Preconditioned Stochastic Gradient Descent on Zero-One Loss**

Stephen Mussmann, Percy Liang

In Proceedings of the 32<sup>nd</sup> Conference on Neural Information Processing Systems (NeurIPS 2018)

<http://web.stanford.edu/~mussmann/NEURIPS2018.pdf>

### **On the Relationship Between Data Efficiency and Error for Uncertainty Sampling**

Stephen Mussmann, Percy Liang

In Proceedings of the 35<sup>th</sup> International Conference on Machine Learning (ICML 2018)

<http://web.stanford.edu/~mussmann/ICML2018.pdf>

### **The Price of Debiasing Automatic Metrics in Natural Language Evaluation**

Arun Chaganty, Stephen Mussmann, Percy Liang

In Proceedings of the 56<sup>th</sup> Annual Meeting of the Association for Computational Linguistics (ACL 2018)

<http://web.stanford.edu/~mussmann/ACL2018.pdf>

### **Generalized Binary Search For Split-Neighborly Problems**

Stephen Mussmann, Percy Liang

In Proceedings of the 21<sup>st</sup> International Conference on Artificial Intelligence and Statistics (AISTATS 2018)

<http://web.stanford.edu/~mussmann/AISTATS2018.pdf>

### **Fast Amortized Inference and Learning in Log-linear Models with Randomly Perturbed Nearest Neighbor Search**

Stephen Mussmann, Daniel Levy, and Stefano Ermon

In Proceedings of the 33<sup>rd</sup> Conference on Uncertainty in Artificial Intelligence (UAI 2017)

<http://web.stanford.edu/~mussmann/UAI2017.pdf>

### **Learning and Inference via Maximum Inner Product Search**

Stephen Mussmann, Stefano Ermon

In Proceedings of the 33<sup>rd</sup> International Conference on Machine Learning (ICML 2016)

<http://web.stanford.edu/~mussmann/ICML2016.pdf>

### **Incorporating Assortativity and Degree Dependence into Scalable Network Models.**

Stephen Mussmann, John Moore, Joseph J. Pfeiffer III, and Jennifer Neville.

In Proceedings of the 29<sup>th</sup> AAAI Conference on Artificial Intelligence (AAAI 2015)

<http://web.stanford.edu/~mussmann/AAAI2015.pdf>

## INTERNSHIP EXPERIENCES

- **Google, Mountain View** **Summer, 2016**
  - Internship with Google Brain Team with host Jonathon Shlens.
- **Google, Mountain View** **Summer, 2015**
  - Software Engineering Internship with host Jialiu Lin.  
Analyze and modify machine learning model used for automating privacy systems.

- **Bloomberg LP, New York City** **Summer, 2014**
  - Software development internship.  
Implemented and refined a feature used by traders to “backtest” strategies. Wrote backend in C++ and frontend in Javascript.

## SCHOLARSHIPS AND AWARDS

- **Scholarships**
  - NSF GRFP fellowship, April, 2016
  - Hertz Fellowship Finalist (40 finalists across US), February, 2016
  - Stanford School of Engineering fellowship, September, 2015
  - Churchill Scholarship Finalist (20 finalists across US), January, 2015
- **Awards**
  - 2015 Outstanding Senior in Purdue Computer Science, April, 2015
  - 2015 Outstanding Senior in Purdue Mathematics, April, 2015
  - 2015 Outstanding Senior in Purdue Statistics, April, 2015
  - G.A. Ross award (Purdue's outstanding Senior man) March, 2015

## TEACHING

- **Stanford CS 168 CA** **Spring 2018**
  - Hold offices hours, design assignments and exam, and grade student work
- **Stanford CS 221 Head CA** **Fall 2017**
  - Coordinate and organize an 800 student class with 29 Cas.
  - Help design and check course materials.

## OUTREACH

- **Boys and Girls Club Power Hour Volunteer Tutor** **Fall 2016 – Spring 2019**
  - Tutor underprivileged high school students in math and science.
- **Stanford Science in Service** **Fall 2015 – Spring 2016**
  - Mentor middle school students in science projects.
- **Boys and Girls Club CS First Guru** **Fall 2015 – Spring 2016**
  - Teach a class of middle school students how to code.

## PROFESSIONAL SERVICE

- **Stanford CS admissions, Fall 2016 – Winter 2017**
- **Conference Reviewer: NeurIPS 2018, ICLR 2019**