

# Peter Schulam

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Whiting School of Engineering  
Johns Hopkins University  
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## Education

- **Johns Hopkins University** Baltimore, MD  
*Ph.D Computer Science* Sep. 2013 – Present
  - Research: Machine learning, computational health, biostatistics
  - Relevant Coursework: Monte Carlo Methods, Topics in Statistical Pattern Recognition, Parallel Programming, Advanced Methods in Biostatistics I-IV, Causal Inference
- **Carnegie Mellon University** Pittsburgh, PA  
*Master's in Language Technologies; GPA: 4.04* Aug. 2011 – Aug. 2013
  - Relevant Coursework: Statistical Machine Learning; Probabilistic Graphical Models; Intermediate Statistical Theory; Advanced Natural Language Processing Seminar; Machine Learning; Language and Statistics; Advanced Speech Recognition Lab; Speech Recognition and Understanding; Algorithms for NLP
- **Princeton University** Princeton, NJ  
*B.A. in Computer Science with Honors; GPA: 3.5; Dept. GPA: 3.6* Sep. 2007 – May 2011
  - Relevant Coursework: Theory of Algorithms; Introduction to Linguistics; Information Security; Game Theory; Reasoning About Computation; Computer Graphics; Computer Networks; Thinking Translation; Operating Systems; Linear Algebra; Multivariable Calculus; Civic Technologies; Logic Design; Advanced Programming Techniques; Algorithms and Data Structures; Programming Systems

## Fellowships and Awards

- NSF Graduate Research Program Fellow (Awarded 2013)
- Johns Hopkins Whiting School of Engineering Centennial Fellow (Awarded 2013)
- Nominated, CMU Siebel Scholar Class of 2013 (faculty selected, top 10% QPA in department)

## Publications

- **P. Schulam** and S. Saria, *What-If Reasoning using Counterfactual Gaussian Processes*, Neural Information Processing Systems (NIPS), 2017
- **P. Schulam** and R. Arora, *Disease Trajectory Maps*, Neural Information Processing Systems (NIPS), 2016
- **P. Schulam** and S. Saria, *Integrative Analysis using Coupled Latent Variable Models for Individualizing Prognoses*, Journal of Machine Learning Research (JMLR), 2016
- **P. Schulam** and S. Saria, *A Framework for Individualizing Predictions of Disease Trajectories by Exploiting Multi-Resolution Structure*, Neural Information Processing Systems (NIPS), 2015
- **P. Schulam** and S. Saria, *Clustering Clinical Time Series in the Presence of Nuisance Variability with Application to Disease Subtyping*, Conference on Artificial Intelligence (AAAI), 2015
- **P. Schulam** and M. Akbacak, *Diagnostic Techniques for Spoken Keyword Discovery*, Interspeech, 2014
- S. Rawat, **P. Schulam**, S. Burger, D. Ding, Y. Wang, and F. Metze, *Robust Audio Codebooks for Large Scale Event Detection in Consumer Videos*, Interspeech, 2013

- V. Chahuneau\*, **P. Schulam**\*, and P. Gadde, *Faster Unsupervised Morphology Induction*, Technical Report, School of Computer Science, Carnegie Mellon University, 2013
- **P. Schulam**, R. Rosenfeld, P. Devanbu, *Building Statistical Language Models of Code*, Data Analysis Patterns in Software Engineering, 2013
- V. Sheinman, C. Fellbaum, I. Julien, **P. Schulam**, and T. Tokunaga, *Large, Huge, or Gigantic? Identifying and Encoding Intensity Relations Among Adjective in WordNet*, Language Resources and Evaluation, 2012
- Q. Jin, **P. Schulam**, S. Rawat, S. Burger, D. Ding, F. Metze, *Event-based Video Retrieval Using Audio*, Interspeech, 2012
- D. Ding, F. Metze, S. Rawat, **P. Schulam**, S. Burger, E. Younessian, L. Bao, M. Christel, A. Hauptmann, *Beyond Audio and Video Retrieval: Towards Multimedia Summarization*, ACM International Conference on Multimedia Retrieval, 2012, **Best Paper Candidate**
- D. Ding, F. Metze, S. Rawat, **P. Schulam**, and S. Burger, *Generating Natural Language Summaries for Multimedia*, Seventh Natural Language Generation Conference, 2012
- V. Sheinman, T. Tokunaga, I. Julien, **P. Schulam**, and C. Fellbaum, *Refining WordNet Adjective Dumbbells Using Intensity Relations*, Global WordNet Conference, 2012
- **P. Schulam** and C. Fellbaum, *Automatically Determining the Semantic Gradation of German Adjectives*, 10th Conference on Semantic Approaches in Natural Language Processing, 2010

## Work Experience

- **Microsoft Research** Mountain View, CA  
*Speech Processing Group* *June 2013 – August 2013*
  - Developed unsupervised spoken keyword discovery algorithm
  - Published work at INTERSPEECH 2014
- **BioImagene** Sunnyvale, CA  
*Computer Vision Research Group Intern* *June 2010 – July 2010*
  - Designed and built software for machine learning approaches to image segmentation of digitized pathology slides
  - Charged with training other interns on use of MATLAB software
- **Zag.com** Santa Monica, CA  
*Software Engineering Intern* *June 2009 – July 2009*
  - Worked with Model-View-Controller Java framework
  - Expected to meet frequent developer deadlines for partners (Capital One, eBay)
  - Collaborated with employees from user interface, business/logic, and data layers to produce final product
- **Occidental Petroleum Corp.** Los Angeles, CA  
*IT Intern* *June 2008 – July 2008*
  - Designed and built web-based platform for building management workflow
  - Trained company employees on use of new platform
  - Independently researched software options for corporate deployment