Mark Heimann

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Education

2015– **Ph.D., Computer Science**, *University of Michigan*, Ann Arbor, Michigan, USA.

2013-2015 **M.S., Computer Science**, *Washington University in St. Louis*, St. Louis, MO, USA.
Graduate Certificate in Data Mining and Machine Learning.

2011-2015 **A.B., Economics and Mathematics** *cum laude* with high distinction in economics, *Washington University in St. Louis*, St. Louis, MO, USA.

Experience

Summer 2015 **Software Engineer Intern**, *Algorithmia*, Seattle, WA, USA.
Researched and operationalized a variety of machine learning algorithms and applications:

- Built a face recognition system using OpenCV and worked with another team member to produce an accompanying web app for it.
- Implemented techniques from a recent academic paper using the celebrated word2vec word representations to achieve excellent results on k-nearest neighbor document classification.
- Enabled efficient automated hyperparameter tuning of machine learning algorithms with Bayesian optimization and showcased it on a variety of algorithms and applications.

2014-2015 **Teaching Assistant**, *Washington University in St. Louis*, St. Louis, MO, USA.
Held office hours and lab sessions, graded, and answered students' questions for Introduction to Machine Learning (CSE 417A), Multi-Agent Systems (CSE 516A), and Fair Division in Theory and Practice (CSE/Pol Sci 245A).

Summer 2014 **Research Assistant**, *Harvey Mudd College*, Claremont, CA, USA.
Used techniques from machine learning and formal language theory to improve computer generation of original jazz solos. Enabled the program to take greater advantage of harmonic and melodic structure in the solos it was trained on, but allowed the user to adjust the extent to which it did so. Implemented work in Impro-Visor, an open-source Java program for jazz improvisation.

Summer 2013 **Research Assistant**, *University of North Carolina at Greensboro*, Greensboro, NC, USA.
Proved previous conjectures and new results about subword complexity of partial words, a mathematics and computer science problem with applications to fields such as computational biology.

Summer 2012 **Student Intern**, *Washington University School of Medicine*, St. Louis, MO, USA.
Studied biostatistics at the introductory graduate level through the NHLBI's SIBS program and used R to apply these methods to biomedical datasets as part of an accompanying practicum.

Honors & Awards

2015 **Adam Smith Prize for Excellence in Economics**, *Washington University in St. Louis.*
Presented to one undergraduate in the economics department each year for writing an outstanding senior thesis. Thesis title: "Motivating Present-Biased Agents to Complete Tasks."

2011-2015 **Arnold J. Lien Scholarship**, *Washington University in St. Louis.*
Four-year full-tuition merit scholarship, awarded to up to four incoming freshmen each year who demonstrate academic potential particularly in the social and behavioral sciences.

Technical Skills

Most proficient in: Python (including NumPy, SciPy, and scikit-learn for machine learning tasks), Java.
Moderate experience with: C++, R, MATLAB, Mathematica.