

KATHERINE A. KEITH

kkeith@cs.umass.edu

EDUCATION

University of Massachusetts Amherst
M.S. / Ph.D. in Computer Science

2016–Present
Amherst, MA

Lewis & Clark College

B.A. in Mathematics (departmental honors, summa cum laude)
Minor: Chinese

2011–2015
Portland, OR

RESEARCH EXPERIENCE

Graduate Research Assistant

University of Massachusetts, Amherst

September 2016–Present
Amherst, MA

- Natural language processing, machine learning, and computational social science research
- Advisor: Dr. Brendan O'Connor

Undergraduate Research Assistant

Lewis & Clark College

May 2014–August 2014
Portland, OR

- Developed an agent-based simulation of intergenerational wealth transfer in medieval England
- Funding: Andrew W. Mellon Collaborative Student-Faculty Research Grant
- Advisor: Dr. Clifford Bekar

PEER-REVIEWED PUBLICATIONS

Katherine A. Keith, Abram Handler, Michael Pinkham, Cara Magliozzi, Joshua McDuffie, and Brendan O'Connor. Identifying civilians killed by police with distantly supervised entity-event extraction. In *Proceedings of Empirical Methods in Natural Language Processing (EMNLP)*. 2017.

TEACHING EXPERIENCE

Fulbright English Teaching Assistant

U.S. Department of State

August 2015–June 2016
Kinmen, Taiwan

- Taught first through sixth grade ESL courses in a public elementary school
- Facilitated multi-cultural dialogue and programming

Mathematics Tutor

Lewis & Clark College

January 2012–May 2015
Portland, OR

- Tutored Calculus I, Calculus II, and Linear Algebra for private one-on-one and group sessions
- Tutor in the Symbolic and Quantitative Resource Center (SQRC)

PRESENTATIONS & POSTERS

- “Temporal, Embedding-Based Soft Deduplication of Police Killing Events.” *Database Design & Implementation* final class project (2017)
- “Probabilistic Modeling of Trending Words on Twitter.” *Statistical Machine Learning* final class project (2016)

- “Machine Learning Classification of Job Loss Twitter Messages.” *Introduction to Natural Language Processing* final class project (2016)
- “Extending the Pontryagin Maximum Principle of Optimal Control Theory for Inequality Constraints and Discounting.” *Lewis & Clark College Mathematics Department Senior Honors Thesis* (2015)
- “An Agent-Based Simulation of Intergenerational Mobility Amongst the English Medieval Peasantry.” *Andrew W. Mellon Student-Faculty Research Project* (2014)

SELECTED COURSES

Machine Learning (in progress), Deep Learning (in progress), Probabilistic Graphical Models, Database Design & Implementation, Statistical Machine Learning, Introduction to Natural Language Processing, Advanced Probability & Statistics, Real Analysis, Abstract Algebra, Game Theory, Numerical Analysis, Differential Equations, Linear Algebra

SERVICE

Student Volunteer, Girls Inc. Eureka! Summer Workshop August 1 & 3, 2017
University of Massachusetts Amherst

Mentor, Research Experience for Undergraduates (REU) Summer 2017
University of Massachusetts Amherst, College of Information and Computer Science

Social Co-chair, Computer Science Women’s Group January 2016–Present
University of Massachusetts Amherst Computer Science Women’s Group

Student Volunteer, Women in Engineering and Computing Career Day October 24, 2016
University of Massachusetts Amherst

TECHNICAL STRENGTHS

Primary programming languages	Python
Deep learning library	Pytorch
Databases	SQL, Postgres
Python modules	scipy, scikit-learn, numpy

AWARDS & HONORS

- Empirical Methods in Natural Language Processing (EMNLP) Student Travel Scholarship (2017)
- Computing Research Association of Women (CRAW) Graduate Cohort Member (2017)
- Paul Utgoff Memorial Graduate Scholarship in Machine Learning (2016)
- Fulbright ETA Grantee with the U.S. Department of State (2015–16)
- Rhodes Scholarship Finalist (2015)
- Marshall Scholarship Finalist (2015)
- Rena Ratte Award (2015)
- Robert B. Pamplin Jr. Society Fellow (2012–2015)
- Dean’s List, Lewis & Clark College (2011–2015)
- Project Pengyou National Leadership Fellow (2014)

- Phi Beta Kappa Member (2014–2015)
- Pi Mu Epsilon Member (2014–2015)
- Barbara Hirschi Neely Four-Year Full-Tuition Scholarship Recipient (2011–2015)
- NCAA Division III Cross-Country All-Academic (2012)
- Lewis & Clark Cross-Country Four-Year Varsity Letter Winner (2011–2015)