

KATHERINE A. KEITH

kkeith@cs.umass.edu

EDUCATION

University of Massachusetts Amherst 2016–Present
M.S. / Ph.D. in Computer Science *Amherst, MA*

Lewis & Clark College 2011–2015
B.A. in Mathematics (departmental honors, summa cum laude) *Portland, OR*
Minor: Chinese

RESEARCH EXPERIENCE

Graduate Research Assistant September 2016–Present
University of Massachusetts, Amherst *Amherst, MA*

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

Undergraduate Research Assistant May 2014–August 2014
Lewis & Clark College *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 August 2015–June 2016
U.S. Department of State *Kinmen, Taiwan*

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

Mathematics Tutor January 2012–May 2015
Lewis & Clark College *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 language	Python
Deep learning library	Pytorch
Python modules	scipy, scikit-learn, numpy
Databases	SQL, Postgres

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)