

Abigail Zimmermann-Niefield

Department of Computer Science, University of Colorado Boulder
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Education

University of Colorado, Boulder, CO *2017 to Present*
Doctor of Philosophy, Computer Science
Advisors: Ben Shapiro and Shaun Kane

Williams College, Williamstown, MA, 2015 *2011-2015*
Bachelor of Arts, Computer Science and Mathematics

Awards and Honors

National Science Foundation Graduate Research Fellowship *Awarded Spring 2019*

Professional Experience

Research Assistant, University of Colorado Boulder *Summer 2018, Spring 2019-present*

- Design and build tools and activities for novice youth to learn about machine learning through building models of their own body movements.
- Conduct workshops and studies to investigate youths' practices and understandings of machine learning models.

Analyst, Regulatory Architecture and Controls, Goldman Sachs *2015-2017*
Summer Analyst, Regulatory Architecture and Controls, Goldman Sachs *Summer 2014*

- Worked with team responsible for design, development, testing, deployment and maintenance of software for tax regulations on financial products.

Independent Study with Jeannie Albrecht, Williams College *Fall 2014-Winter 2015*

- Used massive dataset on appliance-level energy readings from smart homes to classify when inhabitants had devices on, with the goal of eventually using the results to work towards an energy disaggregation algorithm for non-smart homes.

Research Assistant with Professor R. Iris Bahar, Brown University *Summer 2013*

- Researched energy and performance efficient parallel computing for embedded systems with Professor Bahar through Distributed Research Experience for Undergraduates.

Teaching

Teaching Assistant, University of Colorado Boulder *Fall 2017-Fall 2018*

- *Computer Science Senior Projects Course*
 - Advised students during a year-long project for an industry or university sponsor.
 - Grading.
- *Human Computer Interaction.*
 - Led weekly recitation where students completed human centered design

- exercises.
- Graded labs, quizzes, and projects.

Summer Immersion Program Instructor, Girls Who Code *Summer 2017*

- Classroom teacher for 7-week program teaching basics of computing to high school girls in Newark, NJ.
- Additional focus on community building, and social awareness.

Counselor, Williams College Math Camp *Summer 2015*

- Ran afternoon classes and help sessions for two week number theory-focused summer program.
- Planned activities, and accompanied high school students through campus life.

Teaching Assistant, Williams College *2012-2015*

- Assisted with labs, TA sessions and grading for the following classes:
 - *Introduction to Computer Science,*
 - *Computer Organization,*
 - *Theory of Computing,*
 - *Abstract Algebra*

Publications

[1] Zimmermann-Niefield, Abigail R., Turner, Makenna, Murphy, Bridget, Kane, Shaun K. and Shapiro, R. Benjamin. (2019) *Youth Learning Machine Learning through Building Models of Athletic Moves*. In Proceedings of the 2019 International Conference on Interaction Design and Children (IDC) 2019, ACM.

[2] Zimmermann-Niefield, Abigail R., Shapiro, R. Benjamin, and Kane, Shaun K. (2019) *Sports and Machine Learning: how young people can use data from their own bodies to learn about ML*. XRDS, ACM.

Doctoral Consortiums

[1] Zimmermann-Niefield, Abigail R. (2019). *Machine Learning Education for Young People without Programming Experience*. In proceedings of the 2019 ACM Conference on International Computing Education Research (ICER '19). ACM.

Speaking

Co-Invited Speaker, AAAI Symposium on Educational Advances in Artificial Intelligence *Winter 2020*

Math Department Colloquium, Williams College *Fall 2014*

Student Research Poster Session, Grace Hopper Conference *Fall 2013*

Unknot Conference, Denison University *Summer 2012*

Service

New Analyst Intern Committee Training Pillar Lead, Goldman Sachs *2016-2017*

- Coordinated the training pillar.

- Designed and ran classes for new analysts, including Big Data, Public Speaking and Java.