Lauren R. Milne

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Education

PhD in Computer Science and Engineering — *2018*

UNIVERSITY OF WASHINGTON — *Seattle, WA*

Advisor: Richard E. Ladner —*Touchscreen-Based Learning Technologies for Children who are Blind or Have Visual Impairments*

M.S. in Computer Science and Engineering — *2014*

UNIVERSITY OF WASHINGTON — *Seattle, WA*

Advisor: Richard E. Ladner

B.A. in Physics with distinction — *2008*

CARLETON COLLEGE — *Northfield, MN*

magna cum laudeAcademic Employment

Academic Employment

Assistant Professor (tenure track) — *September 2018-Present*

MACALESTER COLLEGE — *Saint Paul, MN*

- COMP 494: Human Computer Interaction (1 section)
- COMP 221: Design and Analysis of Algorithms (3 sections)
- COMP 123: Core Concepts of Computer Science (3 sections)

Visiting Instructor — *Winter 2016*

CARLETON COLLEGE — *Northfield, MN*

- CS 252: Algorithms (1 section)
- CS 111: Introduction to Computer Science (1 section)

Instructor — *Summer 2015*

UNIVERSITY OF WASHINGTON — *Seattle, WA*

- CSE 373: Data Structures and Algorithms (1 section)

Teaching Assistant — *2014-2017*

UNIVERSITY OF WASHINGTON — *Seattle, WA*

- CSE 490D: Introduction to Accessible Technology (1 section)
- CSE 440: Introduction to Human Computer Interaction (1 section)
- CSE 333: Systems Programming (1 section)

Publications

Note: In Computer Science, conferences are the primary publication venue over journal publications. They use double blind review and are equally or more selective than journals.

*Macalester undergraduate students are indicated with*s before their names*

Refereed Conference Papers

- Catherine M. Baker **, Lauren R. Milne **, Richard E. Ladner. 2019. Understanding the Impact of TVIs on Technology Use and Selection by Children with Visual Impairments. In *Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI '19). ACM, New York, NY, USA. (**co-first authors)
- Lauren R. Milne, Richard E. Ladner. 2018. Blocks4All: Overcoming Accessibility Barriers to Blocks Programming for Children with Visual Impairments. *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI '18). ACM, New York, NY, USA.
- Annuska Zolyomi, Anne Ross, Arpita Bhattacharya, Lauren R. Milne and Sean Munson. 2018. Values, Identity, and Social Translucence: Neurodiverse Student Teams in Higher Education. In *Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI '18). ACM, New York, NY, USA.
- Kyle Rector, Lauren R. Milne, Richard E. Ladner, Batya Friedman, Julie A. Kientz. 2015. Exploring the Opportunities and Challenges with Exercise Technologies for People who are Blind or Low-Vision. In *Proceedings of the 16th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '15). ACM, New York, NY, USA.
- Catherine M. Baker, Lauren R. Milne, and Richard E. Ladner. 2015. StructJumper: A Tool to Help Blind Programmers Navigate and Understand the Structure of Code. In *Proceedings of the ACM Conference on Human Factors in Computing Systems* (CHI '15). ACM, New York, NY, USA.
- Lauren R. Milne, Cynthia L. Bennett, Shiri Azenkot, and Richard E. Ladner. 2014. BraillePlay: Educational Smartphone Games for Blind Children. In *Proceedings of the 16th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '14). ACM, New York, NY, USA.
- Catherine M. Baker, Lauren R. Milne, Jeffrey Scofield, Cynthia L. Bennett, and Richard E. Ladner. 2014. Tactile Graphics with a Voice: Using QR Codes to Access Text in Tactile Graphics. In *Proceedings of the 16th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '14). ACM, New York, NY, USA.
- Lauren R. Milne, Cynthia L. Bennett, and Richard E. Ladner. 2014. The Accessibility of Mobile Health Sensors for Blind Users. In *29th Annual International Conference on Technology and Persons with Disabilities* (CSUN '14).

Refereed Journal Papers

- Catherine M. Baker, Lauren R. Milne, Ryan Drapeau, Jeffrey Scofield, Cynthia L. Bennett, and Richard E. Ladner. 2016. Tactile Graphics with a Voice. In *ACM Transactions on Accessible Computing.* 8, 1 Article 3 (January 2016). ACM, New York, NY, USA.

- Lauren R. Milne. 2017. Blocks4All: Making Block Programming Languages Accessible for Blind Children. *SIGACCESS Accessibility and Computing*. 117 (February 2017), 26-29.

Refereed Workshop Papers

- Lauren R. Milne, Richard E. Lander. 2019. Position Paper: Accessible Block-Based Programming: Why and How. In *Proceedings of the IEEE 2019 Blocks and Beyond Workshop*. IEEE Computer Society, USA.

Refereed Poster and Demonstration Papers

- *Jacqueline Shao Yi Ong, *Nana Adwoa O. Amoah, *Alison E. Garrett-Engele, *Mariella Irene Page, *Katherine R. McCarthy, and Lauren R. Milne. 2019. Demo: Expanding Blocks4All with Variables and Functions. In *Proceedings of the 21st International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '19). ACM, New York, NY, USA.
- *Logan B. Caraco, *Sebastian Deibel, *Yufan Ma, and Lauren R. Milne. 2019. Making the Blockly Library Accessible via Touchscreen. In *Proceedings of the 21st International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '19). ACM, New York, NY, USA.
- Lauren R. Milne, Richard E. Lander. 2019. Blocks4All: Making Blocks-Based Programming Languages Accessible for Children with Visual Impairments. In *Proceedings of the 50th ACM technical symposium on Computer Science Education* (SIGCSE '19). ACM, New York, NY, USA.
- Lauren R. Milne, Catherine M. Baker, Richard E. Ladner. 2017. Blocks4All Demonstration: a Blocks-Based Programming Environment for Blind Children. In *Proceedings of the 19th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '17). ACM, New York, NY, USA.
- Annuska Zolyomi, Anne Ross, Arpita Bhattacharya, Lauren R. Milne and Sean Munson. 2017. Value Sensitive Design for Neurodiverse Teams in Higher Education. In *Proceedings of the 19th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '17). ACM, New York, NY, USA.
- Catherine M. Baker, Lauren R. Milne, Jeffrey Scofield, Cynthia L. Bennett, and Richard E. Ladner.2014. Tactile Graphics with a Voice Demonstration. In *Proceedings of the 16th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '14). ACM, New York, NY, USA.
- Lauren R. Milne, Cynthia L. Bennett, and Richard E. Ladner. 2013. VBGhost: a Braille-Based Educational Smartphone Game for Children. In *Proceedings of the 15th International ACM SIGACCESS Conference on Computers and Accessibility* (ASSETS '13). ACM, New York, NY, USA, Article 75.

Invited Presentations

- Panel Member on the Equity in Computer Science Panel: Perspectives from Education to Industry at the Impact Education Conference (December 2019).

- Blocks4All: Making Block Programming Languages Accessible for Blind Children. Presentation at the Pacific Northwest AER Conference (March 2017).
- Blocks4All: Making Block Programming Languages Accessible for Blind Children. Presentation at the SIGCSE Pre Symposium Session (March 2017).
- Making K-12 Computer Science Accessible for Students with Disabilities. 2016. Presentation at Google Accessibility Week (October 2016).
- Tactile Graphics with a Voice. Presentation at the Pacific Northwest AER Conference (March 2015).
- Projects in Mobile Accessibility. Presentation at the Summer Academy for Advancing Deaf and Hard of Hearing in Computing (June 2015).
- Accessibility Research. Presentation at the NCWIT Awards for Aspirations (March 2014).

Grants Received

Accessibility in Blockly: Touch Interaction Research *2019-2020*

GOOGLE LLC *$47,388*

Google CS-ER (Computer Science-Education Research) Grant

Blocks4All: Accessible Blocks-based Programming *2019*

MACALESTER COLLEGE *$11,000*

Collaborative Summer Research Grant Program

Blocks4All: Accessible Blocks-based Programming *2019*

MACALESTER COLLEGE *$16,500*

Clare Boothe Luce Undergraduate Research Scholar Awards through MSCS department

Awards

2018	Paul G. Allen School of Computer Science nomination for the WAGS/UMI Innovation in Technology Award
2014-2017	National Science Foundation (NSF) Graduate Research Fellow
2016	International ACM SIGACCESS Conference (ASSETS) Doctoral Consortium Participant
2014	ASSETS Best Student Paper, Tactile Graphics with a Voice: Using QR Codes to Access Text in Tactile Graphics
2013-2014	University of Washington College of Engineering Fellowship
2012-2013	University of Washington CSE Jeff Bezos First Year Fellowship
2012-2013	University of Washington Boeing Fellow in Engineering
2005-2008	Carleton College Distinguished Scholar/Dean's List
2004	National Merit Finalist

Advising and Mentoring Experience

Research Mentor

- Sebastian Diebel: Macalester College, Accessible Blockly, Summer 2019-Spring 2020
- Logan Caraco: Macalester College, Accessible Blockly, Summer 2019
- Francis Ma: Macalester College, Accessible Blockly, Summer 2019
- Jacqueline Ong: Macalester College, Expanding Blocks4All, Summer 2019
- Mariella Page: Macalester College, Expanding Blocks4All, Summer 2019
- Nana Amoah: Macalester College, Expanding Blocks4All, Summer 2019
- Alison Garett-Engele: Macalester College, Expanding Blocks4All, Summer 2019
- Katherine McCarthy: Macalester College, Expanding Blocks4All, Summer 2019
- Julia Romare: Macalester College, Accessible Blockly, Fall 2018, Spring 2019
- Boruli Li: University of Washington, Pedestrian Wayfinding using Glass, 2014-2016
- Ryan Drapeau: University of Washington, Tactile Graphics using Glass, 2014-2016
- Aric Hunter: University of Washington, BraillePlay Games for iOS, Summer 2013

Academic Advisor

- Alejandro Aguilar: Macalester College
- Henry Basu: Macalester College
- Saby Cortez: Macalester College
- Alison Garrett-Engele: Macalester College
- Stephanie Le: Macalester College
- Tianrui Liu: Macalester College
- Francis Ma: Macalester College
- Nathan Ngo: Macalester College
- Jacqueline Ong: Macalester College
- Gayane Sance: Macalester College
- Fan Zhang: Macalester College

Capstone Advisor

- Gary Huang: Macalester College, 2019
- Rae Hushion: Macalester College, 2019
- Hassan Ismaeel: Macalester College, 2019
- Zain Chaudhry: Macalester College, 2019
- Julia Romare: Macalester College, 2018
- Sara Rose Havener: Macalester College, 2018

Independent Study Supervisor

- Nathan Ngo, Website Design, Macalester College, Winter 2019

Internship Liaison

- Meihua Pan, Data Engineering Intern, Virgin Pulse, Summer 2019

Service and Outreach

Membership in Professional Societies

- AccessComputing
- CSForAll
- Association for Computing Machinery (ACM)
- Phi Beta Kappa

Conference Organization

- Program Committee: International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS) 2019, 2020
- Session Chair: International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS) 2019

Paper Reviewing for Journals and Conferences

- Reviewer: International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS) 2019, 2020
- Reviewer: International ACM CHI Conference on Human Factors in Computing (CHI) 2018, 2019
- Reviewer: International ACM Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI) 2017
- Reviewer: ACM Interaction Design and Children Conference (IDC) 2018

College and Department Service

- Macalester College Mathematics, Statistics and Computer Science Department Seminar Co-organizer, 2019-2020
- Committee Member, Mathematics, Statistics and Computer Science Search 2019

Public Outreach

- PACER Center Tech for Teens Volunteer: Work with teenagers with disabilities as they explore different topics (e.g. building a website, programming a robot), 2019-2020
- Design for America Chapter Founder: Helped found community at the University of Washington that focuses on collaborating with community partners to design for social change, 2016-2017
- Dawg Bytes Programming Camp: Worked with middle school students learning programming using the Quorum Language in a week-long camp, 2016
- Husky Adapt Toy Hack: Took part in hacking event to make electronic toys more accessible for children with motor impairments at the University of Washington, 2016
- Undergraduate Tutoring: Tutored students in Introduction to Computer Science and Algorithms courses with weekly meetings at the University of Washington, 2015
- Empowering Blind Students in Science and Engineering: Volunteered at two-day workshop to match blind high school and college students interested in science and engineering with mentors, 2015

- Saturday Computing Experience Assistant Instructor: University of Washington, Taught Deaf and hard-of-hearing high-schoolers programming with Processing, 2013
- Paws on Science: Volunteered at University of Washington event to get children excited about science, 2012-2016