

EMILY HASTINGS

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EDUCATION

University of Illinois, Urbana-Champaign, IL

Ph.D. in Computer Science

2016-2023

M.S. in Computer Science

2016-2019

Specialization: Human-Computer Interaction

Advisors: Brian Bailey, Karrie Karahalios

Research Interests: team formation, CS education, algorithm awareness, crowdsourcing

Courses included: user interface design, human-computer interaction, experimental methods, educational technology, social media and signals, models of cognitive processes, data mining, educational game design

Knox College, Galesburg, IL

B.A. in Computer Science, *summa cum laude*

2012-2016

Independent Minor: Renaissance and Medieval Studies

Courses included: data structures, hardware organization, information management, algorithm design, graphics, parallel programming, software engineering, networking, operating systems, artificial intelligence

RESEARCH EXPERIENCE

University of Wisconsin-Eau Claire, Eau Claire, WI

Assistant Professor

Fall 2023 – Present

Conducting research in the areas of human-computer interaction and computer science education.

University of Illinois, Urbana-Champaign, IL

Research Assistant

Fall 2016 – Spring 2023

Advisor: Brian Bailey

Worked individually and with a team to investigate issues concerning the use of algorithmic team formation tools.

National Institute of Standards and Technology, Gaithersburg, MD

Guest Researcher/GMSE Fellow

Advisors: Michael Brundage, Rachael Sexton

Worked with Knowledge Extraction Application team in Engineering Laboratory toward quantifying human skill level from historical data and improving team formation for maintenance.

Summer 2018 – 2020

University of Illinois, Urbana-Champaign, IL

Beyond the Black Box Research Team Member

Advisors: Karrie Karahalios (UIUC), Christian Sandvig (UMich)

Worked with a team across multiple universities to conduct a large-scale study on algorithmic literacy and awareness.

2018 – 2019

Knox College, Galesburg, IL

Research Assistant

Advisor: Jaime Spacco

Worked with a team to develop Knoxcraft (<https://github.com/knoxcraft>), a system that allows students to use Java/Python code to build structures in the game Minecraft.

Summer 2015

Knox College, Galesburg, IL

Research Assistant

Advisor: David Bunde

Worked with a team to develop materials to help teach parallel programming at Knox and other institutions.

Summer 2014

Knox College, Galesburg, IL

Research Assistant

Advisor: David Bunde

Worked with a team to investigate task mapping and cabling methods for the Dragonfly interconnect topology.

Summer 2013

TEACHING EXPERIENCE

University of Wisconsin-Eau Claire

Assistant Professor

Responsible for courses CS 145 Programming for New Programmers, CS 146 The Big Picture in Computer Science, and CS 335 Algorithms.

2023-Present

University of Illinois

Teaching Assistant for “User Interface Design”

Ran design studio sections, gave feedback on and evaluated course projects, developed exams, and held office hours. Ranked as Excellent by Students (evaluation: 4.49/5).

2021-2022

Certificate in Foundations of Teaching**2021**

Participated in eight hours of teaching development workshops; had an observation of, and reflected on, my teaching; explored literature on teaching; observed an experienced instructor; and wrote a teaching philosophy statement.

Knox College

Teaching Assistant for “Introduction to Computer Science” and “Program Design and Methodology”**2014-2016**

Assisted professors during lab sessions, graded homework, lab assignments, and quizzes, and held office hours.

Teaching Assistant in the Costume Shop**2013-2014**

Built garments for college theatrical shows, mentored students on individual projects, and presented costume research to classes.

PUBLICATIONS AND PAPERS

Emily M. Hastings, Vidushi Ojha, Benedict V. Austriaco, Karrie Karahalios, and Brian P. Bailey. 2023. Composing Team Compositions: An Examination of Instructors' Current Algorithmic Team Formation Practices. *Proc. ACM Hum.-Comput. Interact.* 7, CSCW2, Article 305 (October 2023), 24 pages. <https://doi.org/10.1145/3610096>

Emily M. Hastings, Sneha R. Krishna Kumaran, Karrie Karahalios, and Brian P. Bailey. 2022. A Learner-Centered Technique for Collectively Configuring Inputs for an Algorithmic Team Formation Tool. In *Proceedings of the 53rd ACM Technical Symposium on Computer Science Education V. 1 (SIGCSE 2022)*. Association for Computing Machinery, New York, NY, USA, 969–975. DOI:<https://doi.org/10.1145/3478431.3499331>.

Reslan, M., **Hastings, E.**, Brundage, M. P., & Sexton, T. (2021). A Data-Driven Framework for Team Formation for Maintenance Tasks. *IJPHM*, 12, 003.

Emily M. Hastings, Albatool Alamri, Andrew Kuznetsov, Christine Pisarczyk, Karrie Karahalios, Darko Marinov, and Brian P. Bailey. 2020. LIFT: Integrating Stakeholder Voices into Algorithmic Team Formation. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20)*. Association for Computing Machinery, New York, NY, USA, 1–13. <https://doi.org/10.1145/3313831.3376797>

Hastings, E., Sexton, T., Brundage, M. P., & Hodkiewicz, M. (2019). Agreement Behavior of Isolated Annotators for Maintenance Work-Order Data Mining. *Proceedings of the Annual Conference of the PHM Society*, 11(1). <https://doi.org/10.36001/phmconf.2019.v11i1.791>

Emily M. Hastings, Farnaz Jahanbakhsh, Karrie Karahalios, Darko Marinov, and Brian P. Bailey. 2018. Structure or Nurture? The Effects of Team-Building Activities and Team Composition on Team Outcomes. *Proc. ACM Hum.-Comput. Interact.* 2, CSCW, Article 68 (November 2018), 21 pages. <https://doi.org/10.1145/3274337>

E. Hastings, D. Rincon-Cruz, M. Spehlmann, S. Meyers, A. Xu, D. P. Bunde, and V. J. Leung, “Comparing global link arrangements for dragonfly networks,” in *2015 IEEE International Conference on Cluster Computing*, Sept 2015, pp. 361–370.

PRESENTATIONS AND POSTERS

- Composing Team Compositions: An Examination of Instructors' Current Algorithmic Team Formation Practices*
ACM Conference on Computer-Supported Cooperative Work **2023**
- Supporting Instructor Decisions on Algorithmic Team Formation through Integrating Stakeholder Voices*
Bradley University CSIS Colloquium **2022**
- Supporting Instructor Decisions on Algorithmic Team Formation through Integrating Stakeholder Voices*
University of Wisconsin-Eau Claire CS Colloquium **2022**
- Supporting Instructor Decisions on Algorithmic Team Formation through Integrating Stakeholder Voices*
Lawrence University MSCS Colloquium **2022**
- Supporting Instructor Decisions on Algorithmic Team Formation through Integrating Stakeholder Voices*
St. Olaf College MSCS Colloquium **2022**
- A Learner-Centered Technique for Collectively Configuring Inputs for an Algorithmic Team Formation Tool*
ACM Technical Symposium on Computer Science Education **2022**
- LIFT: Integrating Stakeholder Voices into Algorithmic Team Formation*
Knox College Computer Science Colloquium **2021**
- LIFT: Integrating Stakeholder Voices into Algorithmic Team Formation*
ACM CHI Conference on Human Factors in Computing Systems **2020**
- Structure or Nurture? The Effects of Team-Building Activities and Team Composition on Team Outcomes*
ACM Conference on Computer-Supported Cooperative Work **2018**

<i>The History and Construction of Elizabethan English Costume</i> Knox College Presentation of Independent Study Research	2016
<i>Knocrift: Teaching Introductory Programming with Minecraft</i> (poster) Knox College Horizons Celebration of Student Research	2016
<i>Knocrift: Teaching Introductory Programming with Minecraft</i> Knox College Summer Science Seminar Series	2015
<i>Adventures in Parallel Programming</i> (poster) Knox College Horizons Celebration of Student Research	2015
<i>Adventures in Parallel Programming</i> (Best Student Seminar Award) Knox College Summer Science Seminar Series	2014
<i>The History and Construction of Elizabethan English Costume</i> (poster) Knox College Horizons Celebration of Student Research	2014
<i>Dragonfly Interconnect Topology</i> (poster) Knox College Horizons Celebration of Student Research	2014
<i>Dragonfly Interconnect Topology</i> Knox College Summer Science Seminar Series	2013

AWARDS AND HONORS

List of Teachers Ranked as Excellent, <i>University of Illinois</i>	2021, 2023
Tau Beta Pi, <i>University of Illinois</i>	2021
Invited participant to EECS Rising Stars 2020, <i>UC Berkeley</i>	2020
Mavis Future Faculty Fellowship, <i>University of Illinois</i>	2020-2021
Graduate Measurement Science and Engineering Fellowship, <i>NIST/GFSD</i>	2018-2020
Phi Beta Kappa, <i>Knox College</i>	2016
E. Inman Fox Prize, <i>Knox College</i>	2016
Paul's Prize in Computer Science, <i>Knox College</i>	2016
Howard A. Wilson Prize in Literary Criticism (2nd Place), <i>Knox College</i>	2016
ASSET Scholar, <i>Knox College</i>	2015-2016
Ron Asplund Memorial Research Award, <i>Knox College</i>	2014
National Merit Scholar, <i>Knox College</i>	2012-2016

SKILLS

Microsoft Office, Google App Suite, Windows, IntelliJ, Eclipse, Github

Programming languages (high proficiency): Java

Programming languages (some experience): Python, C/C#, SQL, HTML/CSS, Javascript/JQuery, PHP, Android development, game development in Unity

Knowledge of research methodologies

Knowledge of statistical analysis techniques, R

Learning management systems: Canvas, Blackboard Learn, Moodle

Writing and presenting reports

English (native language)

Elementary proficiency in French and Latin

SERVICE AND LEADERSHIP

Institute of Electrical and Electronics Engineers

Registration Co-chair for IEEE EIT 2024

2023-present

Behaviour & Information Technology (Journal)

Reviewer

2020

Association for Computing Machinery

Reviewer for ACM CHI

2020-present

Reviewer for ACM CSCW

2019-present

University of Illinois

Girls Who Code Facilitator

2017

Assisting students during weekly club meetings.

Engineers Volunteering in STEM Education (ENVISION)

2016-2017

Led school age children in STEM-related activities.

Knox College

Teaching Assistant for Knox College 4 Kids

2011-2013

Assisted teachers for three summers teaching knitting, crochet, weaving, French, and Harry Potter classes to school-age children.

MEMBERSHIPS

Association for Computing Machinery (ACM)

ACM Special Interest Group on Computer-Human Interaction

Phi Beta Kappa Honor Society

Tau Beta Pi Honor Society