

SARAH MORRISON-SMITH | CURRICULUM VITAE

Assistant Professor • Computer Science
Department of Computer Science • Hamilton College
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APPOINTMENTS

HAMILTON COLLEGE , Clinton NY	<i>Jul. 2022-Present</i>
Assistant Professor of Computer Science	
BARNARD COLLEGE , New York NY	<i>Jul. 2019 -Jun. 2022</i>
Roman Family Teaching and Research Fellow, Computer Science Department	

EDUCATION

UNIVERSITY OF FLORIDA , Gainesville FL	<i>Aug. 2016-Aug. 2019</i>
Ph.D. in Human-Centered Computing	
<ul style="list-style-type: none">Dissertation: E-Science Collaborations in the Life-Sciences: Challenges and Design Opportunities for Technology and CoordinationCommittee: Dr. Jaime Ruiz (advisor), Dr. Gregory Webster, Dr. Kristy Boyer, Dr. Christina Boucher	
COLORADO STATE UNIVERSITY , Fort Collins CO	<i>Aug. 2013-Jul. 2016</i>
M.S. in Computer Science	
Emphasis: Human-Computer Interaction	
<ul style="list-style-type: none">Thesis: Using Audio Cues to Support Motion Gesture Interaction on Mobile DevicesAdvisor: Jaime Ruiz	
MONTANA STATE UNIVERSITY , Bozeman MT	<i>Aug. 2008-May 2013</i>
B.S. in Computer Science	
<ul style="list-style-type: none">Minor: MathematicsInstitutional Honors	
KYOTO UNIVERSITY	<i>May 2011-June 2011</i>
Study Abroad	

GRANTS, AWARDS, AND FELLOWSHIPS

ACM SIGCHI Development Fund	<i>2023</i>
<i>The SIGCHI Development Fund (SDF) provides resources for the SIGCHI community to spur communication, innovation, and expansion of SIGCHI globally and locally. Award amount: \$5,000</i>	
NSF Computer and Information Science and Engineering Research Initiation Initiative (CRII)	<i>2022</i>
<i>The NSF Directorate for Computer and Information Science and Engineering (CISE) seeks to award grants intended to support research independence among early-career academicians who specifically lack access to adequate organizational or other resources. Award amount: \$173,044</i>	
Google Explore CS Research (exploreCSR)	<i>2020</i>
<i>Google's exploreCSR aids higher education efforts to support students from marginalized groups to pursue graduate studies and research careers in computing. Award amount: \$18,000.</i>	

RESEARCH INTERESTS

I design systems to support collaborative research activities in multidisciplinary research, such as life science research and remote work. As an extension of my teaching, I am also interested in exploring pedagogical approaches to teaching accessibility, particularly outside of a traditional classroom setting.

PUBLICATIONS

JOURNAL PAPERS (PEER REVIEWED)

- (J1) **S. Morrison-Smith**, C. Boucher, A. Sarcevic, N. Noyes, C. O'Brien, N. Cuadros, and J. Ruiz. 2022. *Challenges in large-scale bioinformatics projects*. Humanities and Social Sciences Communications 9, 125 (2022).
- (J2) **S. Morrison-Smith**, J. Ruiz. 2020. *Challenges and Barriers in Virtual Teams: A Literature Review*. Springer Nature Applied Sciences (2020).
- (J3) **S. Morrison-Smith**, M. Hofmann, Y. Li, and J. Ruiz. 2016. *Using Audio Cues to Support Motion Gesture Interaction on Mobile Devices*. ACM Transactions on Applied Perception (TAP) 13.3 (2016): 16.
- (J4) **S. Morrison-Smith**, C. Marmon, S. Dighans, T. Daniels, C. Izurieta. 2012. *Technical Debt Reduction Using a Game Theoretic Competitive Source Control Approach*. Council on Undergraduate Research (CUR), CUR Journal Undergraduate Research Highlights, (Winter 2012), Vol 33, No 2.
- (J5) J.M. Costantini, F. Beuneu, **S. Morrison-Smith**, R. Devanathan, and W. J. Weber. 2011. *Paramagnetic Defects in Electron-Irradiated Yttria-Stabilized Zirconia: Effect of Yttria Content*. Journal of Applied Physics 110 (2011) 123506.

CONFERENCE PUBLICATIONS (PEER REVIEWED)

- (C1) J. G. Frazier, E. K. Weinstein, I. Izydorczak, Y. Wu, N. Cuadros, D. A. Sur, **S. Morrison-Smith**. 2025. *DriveGroups: Using Group Perspective for Usable Data Sharing in Research Collaborations*. Proceedings of the 2025 ACM International conference on Supporting Group Work (GROUP '25), ACM.
- (C2) X. Guo, Q. Li, **S. Morrison-Smith**, L. Anthony, A. Zare, Y. Song. 2024. *Elucidating Challenges and User Needs Associated with Annotation Software for Plant Phenotyping*. Proceedings of the 2024 International ACM Conference on Intelligent User Interfaces (IUI '24), ACM.
- (C3) **S. Morrison-Smith**, L. Chilton, and J. Ruiz. 2021. *AmbiTeam: Providing Team Awareness Through Ambient Displays*. Proceedings of the 2021 International Conference on Graphics Interfaces (GI '21), ACM.
- (C4) **S. Morrison-Smith**, A. Aloba, H. Lu, B. Benda, S. Esmacili, G. Flores, J. Smith, N. Soni, I. Wang, R. Joy, D. L. Woodard, J. Ruiz, and L. Anthony. 2020. *MMGatorAuth: A Novel Multimodal Dataset for Authentication Interactions in Gesture and Voice*. Proceedings of the 2020 International Conference on Multimodal Interaction (ICMI '20), ACM.
- (C5) N. Soni, S. Gleaves, H. Neff, **S. Morrison-Smith**, S. Esmacili, I. Mayne, S. Bapat, C. Schuman, K. A. Stofer, and L. Anthony. 2020. *Adults' and Children's Mental Models for Gestural Interactions with Interactive Spherical Displays*. Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI'2020), ACM.
- (C6) N. Soni, S. Gleaves, H. Neff, **S. Morrison-Smith**, S. Esmacili, I. Mayne, S. Bapat, C. Schuman, K. A. Stofer, L. Anthony. 2019. *Do User-Defined Gestures for Flatscreens Generalize to Interactive Spherical Displays for Adults and Children?*. Proceedings of the International Symposium on Pervasive Displays (PerDIS '19), ACM.
- (C7) S. S. A. Shimon, C. Lutton, Z. Xu, **S. Morrison-Smith**, C. Boucher, and J. Ruiz. 2016. *Exploring Non-touchscreen Gestures for Smartwatches*. Proceedings of the 34th Annual ACM Conference on Human Factors in Computing Systems (CHI'16), ACM.

- (C8) **S. Morrison-Smith**, C. Boucher, A. Bunt, and J. Ruiz. 2015.
Elucidating the Role and Use of Bioinformatics Software in Life Science Research.
Proceedings of the 2015 British HCI Conference (British HCI '15). ACM, 230–238.
- (C9) S. S. A. Shimon, **S. Morrison-Smith**, N. John, G. Fahimi, and J. Ruiz. 2015.
Exploring Back-of-The Device Gestures for Mobile Interaction
Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Service (MobileHCI '15). ACM, 227-232.
- (C10) **S. Morrison-Smith**, C. Marmon, S. Dighans, T. Daniels, C. Izurieta. 2012.
Technical Debt Reduction Using a Game Theoretic Competitive Source Control Approach
ISCA 25th International Conference on Computer Applications in Industry and Engineering, (CAINE '12),
New Orleans, LA, Nov. 14-16, 2012.

POSTERS AND EXTENDED ABSTRACTS (PEER REVIEWED)

- (AB1) A. Goldman, C. Espinosa, S. Patel, F. Cavuoti, J. Chen, A. Cheng, S. Meng, A. Patil, L. B. Chilton, **S. Morrison-Smith**. 2022.
QuAD: Deep-Learning Assisted Qualitative Data Analysis with Affinity Diagrams
CHI '22 Extended Abstracts on Human Factors in Computing Systems, ACM (2022).
- (AB2) **S. Morrison-Smith**, H. Yao, I. Wang, B. Lok, and J. Ruiz. 2018.
Staying Alive with Virtual Humans
CHI '18 Extended Abstracts on Human Factors in Computing Systems, ACM (2018).
- (AB3) **S. Morrison-Smith** and J. Ruiz. 2014.
Using Audio Cues to Support Motion Gesture Interaction on Mobile Devices.
CHI '14 Extended Abstracts on Human Factors in Computing Systems, ACM (2014).
- (P1) **S. Morrison-Smith**. 2009.
Data Analysis of Hydration in Fuel Cell Membranes
Department of Energy Science and Engineering Research Challenge (SERCh) (2009).

REFEREED WORKSHOPS

- (W1) **S. Morrison-Smith**, L. B. Chilton, J. Ruiz. 2020.
Facilitating Team Awareness through Ambient Displays
Proceedings of Microsoft's Symposium on the New Future in Work. (2020).
- (W2) **S. Morrison-Smith**, C. Boucher, I. Wang, and J. Ruiz. 2016.
Opportunities for Supporting Large-Scale Collaborative Projects.
Proceedings of Computer-Supported Cooperative Work and Social Computing (CSCW '16): Workshop on Large-scale Collaborative Projects to Affect Societal Change.

ARTICLES

- (AR1) **S. Morrison-Smith**, L. B. Chilton, J. Ruiz. 2020.
AmbiTeam: Enabling Awareness of Remote Team Activities Using Ambient Displays
ACM XRDS Magazine. (2021).

PRESENTATIONS AND POSTERS AT CONFERENCES AND SYMPOSIUMS

- (PP1) I. Izydorczak, J. G. Frazier, Y. Wu, E. K. Weinstein, J. Simeone, L. Ceccon, C. Whynott, **S. Morrison-Smith**. 2024. *Facilitating Data Sharing with DriveGroups: A System Overview*. Proceedings of the 12th NY6 Undergraduate Research Conference.
- (PP2) Y. Wu, J. G. Frazier, I. Izydorczak, D. A. Sur, E. K. Weinstein, N. Cuadros, **S. Morrison-Smith**. 2023. *DriveGroups: Using Group Perspective to Facilitate Data Sharing in Life Sciences*. Proceedings of the 11th NY6 Undergraduate Research Conference.

- (PP3) I. Izydorczak, Y. Wu, J. G. Frazier, E. K. Weinstein, **S. Morrison-Smith**. 2023. *DriveGroups: Facilitating Access Control in Google Drive*. Hamilton College Summer Research Poster.
- (PP4) S. Favela, M. Maillet, Y. Wu, S. Morrison-Smith. 2023. *SQuID - Systematic Qualitative Information Diagrammer*. Hamilton College Summer Research Poster.
- (PP5) L. Leschziner, S. Meng, S. Morrison-Smith. 2021. *Qualitative Affinity Diagramming Tool (QuAD)*. Barnard College Summer Research Institute Poster.
- (PP6) C. O'Brien, N. Cuadros, S. Morrison-Smith. 2021. *DriveGroups: Facilitating Access Control in Google Drive*. Barnard College Summer Research Institute Poster.

PREPRINTS

- (PR1) A. Aloba, **S. Morrison-Smith**, A. Richlen, K. Suarez, Y.P. Chen, J. Ruiz, L. Anthony. 2023. *Multimodal User Authentication in Smart Environments: Survey of User Attitudes*. arXiv preprint arXiv:2305.03699.

TEACHING

HAMILTON COLLEGE, Clinton NY

CPCSI 101 Computer Science for All

Instructor, Lab Instructor

Spring 2025, 2024, 2023

CPSCI 102 Design Principles

Instructor

Fall 2024

CPCSI 220 Principles of Programming Languages

Instructor

*Spring 2025, Spring 2024,
Fall 2022*

CPCSI 360 Developing Accessible User Interfaces

Creator and Instructor

Fall 2022, 2023, 2024

CPSCI 410 Senior Seminar

Instructor

Spring 2025, Fall 2023

BARNARD COLLEGE, New York NY

COMS BC 3162 Developing Accessible User Interfaces

Creator and Instructor

Spring 2020 & 2021

COMS BC 3364 Introduction to Contextual Design for Technology

Creator and Instructor

Fall 2019, 2020, & 2021

Pre-College Program: Accessibility in the World and on the Web

Creator and Instructor

Summer 2021

Pre-College Program: User Experience Design for Technology

Creator and Instructor

Summer 2020

UNIVERSITY OF FLORIDA, Gainesville FL

COP 3502 Introduction to Programming 1

Instructor

Summer 2019

COLORADO STATE UNIVERSITY, Fort Collins CO

CS 464 Introduction to Human-Computer Interaction

Teaching Assistant

Spring 2016 & 2015

MONTANA STATE UNIVERSITY, Bozeman MT

M 105Q Contemporary Mathematics

Educational Methods Teaching Fellowship

Fall 2012

Tutoring
Association for Women in Computing Tutor

Fall 2012

SERVICE

RESEARCH PROGRAM & ORGANIZING COMMITTEES

Reviewer , ACM SIGCHI Conference on Human Factors in Computing Systems Late Breaking Work (CHI)	2025
Reviewer , ACM SIGCHI Conference on Human Factors in Computing Systems (CHI), received special recognition for outstanding review	2023
Assistant Chair , ACM SIGCHI Conference on Human Factors in Computing Systems Late Breaking Work (CHI)	2023
Reviewer , ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)	2022
Senior Program Committee , ACM International Conference on Multimodal Interaction (ICMI)	2022
Reviewer , ACM Conference on Computer-Supported Cooperative Work (CSCW)	2021
Reviewer , ACM Conference on Mobile Human-Computer Interaction (MobileHCI)	2021
Reviewer , ACM Conference on Designing Interactive Systems (DIS)	2021
Assistant Chair , ACM SIGCHI Conference on Human Factors in Computing Systems Late Breaking Work (CHI)	2021
Reviewer , ACM Conference on Designing Interactive Systems (DIS)	2020
Reviewer , ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)	2020
Reviewer , ACM Conference on Designing Interactive Systems (DIS)	2019
Reviewer , ACM International Conference on Intelligent User Interfaces (IUI)	2019
Reviewer , Graphics Interface (GI)	2014

DEPARTMENTAL & UNIVERSITY SERVICE

HAMILTON

Organizer for Plant Lecture Series , Hamilton College	2024 - 2025
Student Fellowship Committee , Hamilton College	2024 - 2025
Search Committee , Computer Science Department	2023 - 2025
SREB Recruiter , Hamilton College	2023
Organizer , AccessHack	2023 - Present

BARNARD

Department Representative , Barnard Summer Research Institute	2021-2022
Judge , Columbia DivHacks	2021
Coordinator , Barnard Computer Science Summer Research	2020
Mentor , Design at Columbia	2020-2021
Organizer , Barnard BEARS: Better, Enhance, and Advance Research Series	2020-2021
Judge , Columbia Virtual Campus Design Challenge	2020

ORGANIZATIONS

Affiliate , Alliance for Identity-Inclusive Computing Education (AiiCE)	2022-Present
Member , American Association for the Advancement of Science	2017-Present
Member , Gator Women in Computer Science	2016-2017
Chair (2015), Cofounder and Vice-Chair (2014) , ACM's Women in Computing (ACM-W) Colorado State University	2014-2015
Member , Upsilon Pi Epsilon - Colorado State University Chapter	2014-2016
Member , Association for Computing Machinery (ACM)	2014-Present
Secretary (2011-2013), Member (2009-2011) , Association for Women in Computing (AWC) – Montana State University	2011-2013

OUTREACH

Hamilton College Careers in Tech Workshop for Youth	2024—2025
Colorado State University's ACM-W K-12 Outreach Series	2014—2015
Colorado State University's Math, Science, & Technology Day	2013—2014
Montana State University's Engineer-a-thon	2012

UNDERGRADUATE RESEARCH MENTOR

LISTED BY GRADUATION YEAR AND INSTITUTION

HAMILTON COLLEGE

Soren Lera, Seth Moore, and Leah Reed '27
 Lulu Ceccon, Joseph Simeone, and Catherine Zhang '26
 Jamie Duncan, Iris Izydorczak, and Connor Whynott '25
 Sebastian Favela, James Frazier, Matthew Maillet***, Emily Weinstein, and Ivan Wu*** '24
 Nicholas Adair '23

BARNARD COLLEGE & COLUMBIA UNIVERSITY

Luiza Leschziner and Hana Memon '24
 Francesca Cauvoti, Nazaret Cuadros, Mei Kuo, Esme Li, Catherine O'Brien, and Dipashreya Sur*** '23
 Julia Chang, Jade Chen, Alexandra Cheng, Cindy Espinosa, Ariel Goldman***, Sabrina Meng, Aditi Patil, Emily Ringel, and Morgan Zee '22
 Hariti Patel, Shivani Patel, and Yiyun Wang '21

UNIVERSITY OF FLORIDA

Halle Parris '18
 Stephanie Nash '17

COLORADO STATE UNIVERSITY

Megan Hofmann* '16
 Christopher Dean**, Courtney Lutton, Annie Ross*, Heting Wang*** '15

* Assistant Professor

** Postdoc

*** Graduate student

INVITED TALKS AND WORKSHOPS

Panel: Ada Lovelace Day Hamilton College Hamilton College Library	<i>Clinton, NY October 2023</i>
Workshop: Accessibility Columbia University DivHacks	<i>New York, NY October 2021</i>
Panel: Accessibility Columbia University DivHacks	<i>New York, NY October 2021</i>
Workshop: Fundamentals of Version Control using Git and GitHub Barnard College Vagelos Computational Science Center	<i>New York, NY October 2021</i>
Intro to Barnard CS and Hands-on Data Visualization Barnard College Science Pathways Scholars Program (SP ²)	<i>New York, NY July 2021</i>
Challenges and Barriers in Virtual Teams: A Literature Review AnnexBox	<i>New York, NY July 2021</i>
Career Paths in STEM Barnard College Summer Research Institute	<i>New York, NY June 2021</i>
“Why Are There So Many Students with Disabilities?”: Looking at Disability from a DEI Lens Barnard College Center for Engaged Pedagogy	<i>New York, NY March 2021</i>
Introduction to Source Control Barnard College Barnard BEARS: Better, Enhance, and Advance Research Series	<i>New York, NY March 2021</i>
Finding Your Mentor Barnard College Barnard BEARS: Better, Enhance, and Advance Research Series	<i>New York, NY January 2021</i>
User Interface/User Experience Columbia University DivHacks Hackathon	<i>New York, NY October 2020</i>
Quick Guide to Accessible Design Columbia University Design at Columbia	<i>New York, NY June 2020</i>
Eliciting Gestures from Users Barnard College	<i>New York, NY May 2019</i>
Supporting Biological E-Science Through HCI Center for Minorities and People with Disabilities in IT	<i>Houston, TX May 2019</i>

Exploring Users' Work Practices, Needs, and Mental Models to Build the Next Generation of Interactive Technology Future Faculty Workshop University of Notre Dame	<i>Notre Dame, IN April 2019</i>
Mental Health & Graduate School University of Florida	<i>Gainesville, FL February 2019</i>
Calming CHI Anxiety: A Mindfulness Approach University of Florida	<i>Gainesville, FL September 2018</i>
A Picture is Worth a Thousand Words: Making Informative Figures for Research Papers University of Florida	<i>Gainesville, FL October 2017</i>
Improving At-Home CPR Training with Virtual Feedback University of Florida	<i>Gainesville, FL July 2017</i>
RSIs or: How I learned to Stop Worrying and Love the Foot Mouse University of Florida	<i>Gainesville, FL July 2017</i>