SARAH MORRISON-SMITH | CURRICULUM VITAE

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

HAMILTON COLLEGE, Clinton NY   *Jul. 2022-Present*
Assistant Professor of Computer Science

BARNARD COLLEGE, New York NY   *Jul. 2019 -Jun. 2022*
Roman Family Teaching and Research Fellow, Computer Science Department

EDUCATION

UNIVERSITY OF FLORIDA, Gainesville FL   *Aug. 2016-Aug. 2019*
Ph.D. in Human-Centered Computing
- Dissertation: E-Science Collaborations in the Life-Sciences: Challenges and Design Opportunities for Technology and Coordination
- Committee: Dr. Jaime Ruiz (advisor), Dr. Gregory Webster, Dr. Kristy Boyer, Dr. Christina Boucher

COLORADO STATE UNIVERSITY, Fort Collins CO   *Aug. 2013-Jul. 2016*
M.S. in Computer Science
Emphasis: Human-Computer Interaction
- Thesis: Using Audio Cues to Support Motion Gesture Interaction on Mobile Devices
- Advisor: Jaime Ruiz

MONTANA STATE UNIVERSITY, Bozeman MT   *Aug. 2008-May 2013*
B.S. in Computer Science
- Minor: Mathematics
- Institutional Honors

KYOTO UNIVERSITY   *May 2011-June 2011*
Study Abroad

GRANTS, AWARDS, AND FELLOWSHIPS

ACM SIGCHI Development Fund   *2023*
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

NSF Computer and Information Science and Engineering Research Initiation Initiative (CRII)   *2022*
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

Google Explore CS Research (exploreCSR)   *2020*
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.

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. Esmaeili, 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. Esmaeili, 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. Esmaeili, 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)   E. Connolly, S. Lera, L. Reed, **S. Morrison-Smith**. 2025
Pectogram: Enhancing PECS with Generative AI to Support Unfamiliar Communication Contexts'
Proceedings of the 27th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '25), ACM (2025).

(AB2)   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).

(AB3)   **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).

(AB4)   **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)   S. Lera, L. Reed, **S. Morrison-**Smith. 2025. *Pectogram: Enhancing PECS with Generative AI to Support Unfamiliar Communication Contexts.* Proceedings of the 13th NY6 Undergraduate Research Conference.

(PP2) S. Moore, C. Zhang, **S. Morrison-Smith.** 2025. *How Reddit Users Framed the Role of Technology in Remote Work Before, During, and After the Pandemic*. Proceedings of the 13th NY6 Undergraduate Research Conference.

(PP3) 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.

(PP4) 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.

(PP5) 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.

(PP6) S. Favela, M. Maillet, Y. Wu, S. Morrison-Smith. 2023. *SQuID - Systematic Qualitative Information Diagrammer*. Hamilton College Summer Research Poster.

(PP7) L. Leschziner, S. Meng, S. Morrison-Smith. 2021. *Qualitative Affinity Diagramming Tool (QuAD)*. Barnard College Summer Research Institute Poster.

(PP8) 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   *Summer 2019*
Instructor

COLORADO STATE UNIVERSITY, Fort Collins CO
CS 464 Introduction to Human-Computer Interaction   *Spring 2016 & 2015*
Teaching Assistant

MONTANA STATE UNIVERSITY, Bozeman MT
M 105Q Contemporary Mathematics   *Fall 2012*
Educational Methods Teaching Fellowship

Tutoring   *Fall 2012*
Association for Women in Computing Tutor

SERVICE

RESEARCH PROGRAM & ORGANIZING COMMITTEES

Assistant Chair, ACM SIGCHI Conference on Human Factors in Computing (CHI)   *2025*

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 - 2024*
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

Member, American Association of University Professors (AAUP)	*2024-Present*
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

Sydney Chen, Soren Lera, Seth Moore, and Leah Reed '27

Lulu Ceccon, Shanbairong (Susan) Nie, Juliette Santos, 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/Research Fellow
*** Graduate student/Post-Bac Research Assistant

INVITED TALKS AND WORKSHOPS

HCI for Good or Evil   *Medford, MA*
Tufts University   *October 2025*
Human Factors Seminar

Workshop: Accessibility   *Clinton, NY*
Hamilton College & Northeastern University   *July 2024*
AccessHack

Panel: Ada Lovelace Day   *Clinton, NY*
Hamilton College   *October 2023*
Hamilton College Library

Workshop: Accessibility   *New York, NY*
Columbia University   *October 2021*
DivHacks

Panel: Accessibility   *New York, NY*
Columbia University   *October 2021*
DivHacks

Workshop: Fundamentals of Version Control using Git and GitHub *New York, NY*
Barnard College   *October 2021*
Vagelos Computational Science Center

Intro to Barnard CS and Hands-on Data Visualization   *New York, NY*
Barnard College   *July 2021*
Science Pathways Scholars Program (SP^2)

Challenges and Barriers in Virtual Teams: A Literature Review *New York, NY*
AnnexBox   *July 2021*

Career Paths in STEM   *New York, NY*
Barnard College   *June 2021*
Summer Research Institute

"Why Are There So Many Students with Disabilities?": Looking at Disability from a DEI Lens
Barnard College
Center for Engaged Pedagogy

New York, NY
March 2021

Introduction to Source Control
Barnard College
Barnard BEARS: Better, Enhance, and Advance Research Series

New York, NY
March 2021

Finding Your Mentor
Barnard College
Barnard BEARS: Better, Enhance, and Advance Research Series

New York, NY
January 2021

User Interface/User Experience
Columbia University
DivHacks Hackathon

New York, NY
October 2020

Quick Guide to Accessible Design
Columbia University
Design at Columbia

New York, NY
June 2020

Eliciting Gestures from Users
Barnard College

New York, NY
May 2019

Supporting Biological E-Science Through HCI
Center for Minorities and People with Disabilities in IT

Houston, TX
May 2019

Exploring Users' Work Practices, Needs, and Mental Models to Build the Next Generation of Interactive Technology
Future Faculty Workshop
University of Notre Dame

Notre Dame, IN
April 2019

Mental Health & Graduate School
University of Florida

Gainesville, FL
February 2019

Calming CHI Anxiety: A Mindfulness Approach
University of Florida

Gainesville, FL
September 2018

A Picture is Worth a Thousand Words: Making Informative Figures for Research Papers
University of Florida

Gainesville, FL
October 2017

Improving At-Home CPR Training with Virtual Feedback
University of Florida

Gainesville, FL
July 2017

RSIs or: How I learned to Stop Worrying and Love the Foot Mouse
University of Florida

Gainesville, FL
July 2017