

PROFESSIONAL EXPERIENCE

Graduate Researcher

2023-Present

Northern Arizona University, School of Informatics, Computing, and Cyber-Systems

Co-Advisors: Morgan Vigil-Hayes and Jared Duval

- Assisted on the development, evaluation, and deployment of *Qöyangnuptu*, a mobile behavioral health application to support emotional resilience among Hopi youth.
- Designed, developed, and rigorously evaluated *NetGauge*, a mobile application for playful network broadband data collection.

Undergraduate Researcher

2019-2023

Northern Arizona University, School of Informatics, Computing, and Cyber-Systems

Advisor: Morgan Vigil-Hayes

- Assisted on the development of *Qöyangnuptu*, a mobile behavioral health application to support emotional resilience among Hopi youth.
- Led a longitudinal study evaluating the impacts of commercial behavioral health mobile apps on college students during the COVID-19 pandemic.
- Assisted in a systematic review of 76 commercial behavioral health mobile applications.

TECHNICAL SYSTEM IMPLEMENTATIONS

NetGauge Games Mobile Application

2023-Current

Graduate Researcher

A mobile games platform for collecting network broadband measurements as part of a citizen science effort for improving internet equity. The app is developed in Flutter and Dart and games are developed in Twine. *Github*: https://github.com/CANIS-NAU/NetGauge_Games

Sunrise/Qöyangnuptu Mobile Application & Resilience Resource Database

2019-Current

Graduate Researcher, Undergraduate Research Assistant

A mobile application co-designed with members of the Hopi Tribe to support Hopi youth in adopting culturally aligned emotional resilience practices. This app is developed in Flutter and Dart and was rigorously evaluated in collaboration with Hopi's Behavioral Health Services.

Project website: <https://bit.ly/nau-sunrise>

LLMs for Human-Centered Literature Reviews

2025-Current

Graduate Researcher

A project iteratively adapting LLM capabilities for answering subjective questions on HCI literature.

PUBLICATIONS

2026

- ***Shelby Hagemann***, Empowering Engagement: Designing for Sustainable and Playful Community Crowdsensing. Accepted to ACM Designing Interactive Systems Conference (DIS '26) Doctoral Consortium.
- ***Shelby Hagemann***, Jared Duval, Ferran Altarriba Bertran, Elena Márquez Segura, Morgan Vigil-Hayes. **Chasing Play Potentials in Place for Innovative Mobile Crowdsensing**. 2026. Accepted to ACM Designing Interactive Systems Conference (DIS '26) Workshops.
- ***Shelby Hagemann***, Morgan Vigil-Hayes, Ashish Amresh, Marissa Adams, Darold Joseph,, Ann Futterman Collier. **User Testing an mHealth Behavioral Health Application for Hopi/Tewa Youth During the COVID-19 Pandemic**. 2026. Accepted to Journal of Medical Internet Research (JMIR) Formative Work track, currently being prepared for publication. [24% acceptance rate]
- Jared Duval, Cole Pendergraft, Taylen Johnson, Olivia Vester, Chaithanya Heblkar, Hunter Beach, ***Shelby Hagemann***, Md Nazmul Hossain, Varna Gobbur, Alison Graham, Morgan Vigil-Hayes. **NetGauge Games Platform: Connecting People and Place while Crowdsourcing Broadband Measurements**. 2026. Submitted to ACM Transactions on Computer-Human Interactions. Pre-print available here: <https://tinyurl.com/2s4ze28x>

2025

- Nova Ahmed, Laura Gazda, Eric Greenlee, ***Shelby Hagemann***, Kurtis Heimerl, Esther Jang, Fernanda R. Rosa, Loqman Salamatian, and Jason Young. 2025. **Unveiling and Engaging with the Humans of Networking Research**. In Proceedings of the 24th ACM Workshop on Hot Topics in Networks (HotNets '25). Association for Computing Machinery, New York, NY, USA, 25–33. <https://doi.org/10.1145/3772356.3772400>
- Josh Andres, Chris Danta, Andrea Bianchi, Sahar Farzanfar, Gloria Milena Fernandez-Nieto, Alexa Becker, Tara Capel, Frances Liddell, ***Shelby Hagemann***, Ned Cooper, Sungyeon Hong, Li Lin, Eduardo Benitez Sandoval, Anna Brynskov, Hubert Dariusz Zając, Zhuying Li, Tianyi Zhang, and Arneir Berge. 2025. **A Scenario-Based Design Pack for Exploring Multimodal Human-GenAI Relations**. Proceedings of the 27th International Conference on Multimodal Interaction. Association for Computing Machinery, New York, NY, USA, 145–154. <https://doi.org/10.1145/3716553.3750749>

2024

- Shelby Hagemann, Ann D Collier, Laverne Dallas, Marissa Adams, Darold Joseph, Ashish Amresh, and Morgan Vigil-Hayes. 2024. Designing a Resilience Resource Database with Hopi Behavioral Health Services. In Companion Publication of the 2024 ACM Designing Interactive Systems Conference (DIS '24 Companion). Association for Computing Machinery, New York, NY, USA, 181–184. <https://doi.org/10.1145/3656156.3663736> [24% acceptance rate]
- Jared Duval, ***Shelby Hagemann***, Tochukwu Arinze Ikwunne, Dayra Quinonez, and Morgan Vigil-Hayes. 2024. **Co-Designing Location-based Games for Broadband Data Collection**. In Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS '24). Association for Computing Machinery, New York, NY, USA, 2057–2072. <https://doi.org/10.1145/3643834.3661502> [24% acceptance rate]

P U B L I C A T I O N S

2023

- Collier, Ann Futterman, [Shelby Hagemann](#), Susan Brown Trinidad, and Morgan Vigil-Hayes. "**Human-to-Computer interactivity features incorporated into behavioral health mHealth apps: systematic search.**" JMIR formative research 7 (2023): e44926.

2021

- Morgan Vigil-Hayes, Ann Futterman Collier, [Shelby Hagemann](#), Giovanni Castillo, Keller Mikkelson, Joshua Dingman, Andrew Muñoz, Jade Luther, and Alexandra McLaughlin. 2021. **Integrating Cultural Relevance into a Behavioral mHealth Intervention for Native American Youth.** Proc. ACM Hum.-Comput. Interact. 5, CSCW1, Article 165 (April 2021), 29 pages. <https://doi.org/10.1145/3449239>
 - **Recognition for Contribution to Diversity and Inclusion Best Paper Award** [*Awarded to top 1% of papers*]

P U B L I C A T I O N S I N S U B M I S S I O N

- [Shelby Hagemann](#), Saroj Kaashyap Pokkula, Ashish Amresh, Ann Collier, Charmayne Hardy, Marissa Adams, Darold Joseph, Morgan Vigil-Hayes. **Iterative Design of the Sunrise Sociotechnical System.** 2026. Submitted to ACM Conference on Computing and Sustainable Societies (COMPASS '26).
- Saroj Kaashyap Pokkula, [Shelby Hagemann](#), Ashish Amresh, and Morgan Vigil-Hayes. 2026. **Poster: An Offline-First Modular mHealth Platform for Rural Youth Mental Wellness.** 2026. Submitted to ACM MobiSys poster track.

TEACHING AND WORKSHOP EXPERIENCE

CS 577: Human-Computer Interaction

2026

Northern Arizona University, Fall 2026 Term

Instructor of record for an elective course in NAU's Computer Science program.

IMG 499: Games for Civic Engagement

2026

Northern Arizona University, Summer 2026 Term

Instructor of record, designing an elective course for NAU's Immersive Media and Games program.

Gameorama

2026

Northern Arizona University, Supervised by Jared Duval

Planning and facilitating a mass play-testing and co-designing event for May 2026 with the Hozhoni Foundation, a local organization offering care to individuals with disabilities.

Designing Interactive Fiction with Twine

2025

4-Corners Computer Science Convening, Supervised by Morgan Vigil-Hayes

Supported a workshop demonstrating a lesson on building games in Twine to K-12 instructors.

CS4ALL Workshop on Computer Science Education

2023

Northern Arizona University, Supervised by Morgan Vigil-Hayes

Supported a workshop demonstrating to K-12 educators methods for incorporating CS curriculum into their lesson plans.

Creating Learning Material for Programming in C

2021

Northern Arizona University, Supervised by Michael Leverington

Created instructional materials (educational videos and blog-posts) to support NAU students taking CS 249 and CS 480, after the CS program had started teaching these courses in C.

Peer Match Coach

2019

Northern Arizona University Peak Performance Program

Met with incoming first-year students weekly, offering math tutoring to prepare them for the math placement exam (with course placement ranging from Pre-Algebra to Calculus 1).

H O N O R S A N D A W A R D S

Outstanding Student in Modern Languages Program

2023

Northern Arizona University College of Arts and Letters

An award recognizing efforts in Northern Arizona University's Bachelor of Arts in Modern Languages (Interdisciplinary German emphasis) program.

Hooper Undergraduate Research Award (\$3,041)

2020-2021

Northern Arizona University, *ROLE*: Principal Investigator

A grant supporting undergraduate research on the effects of behavioral health applications on college students.

Jean Shuler Mini Grant (\$450)

2020-2021

Northern Arizona University, *ROLE*: Principal Investigator

A grant supporting undergraduate research on the effects of behavioral health applications on college students.

Best Essay in Section

2019

Northern Arizona University Honors College

An award recognizing an essay written for HON 190, a first-year English course in Northern Arizona University's honors program.

Lumberjack Scholars Award (>\$40,000)

2018-2023

Northern Arizona University

A merit-based, full-tuition scholarship awarded over five years, with a minimum GPA requirement of 3.0.