Aayushi Dangol

PhD Student · Human-Centered Design & Engineering · University of Washington

adango@uw.edu adango26.github.io adango26

Education

2022 – 2026 **University of Washington** – Seattle, WA
Ph.D., Human Centered Design & Engineering – Spring 2026 (anticipated)
M.S., Human Centered Design & Engineering
Advisor: Dr. Julie Kientz

2016 – 2020 **Swarthmore College** – Swarthmore, PA
B.A., Computer Science & Studio Arts (Double Major)
Aquincum Institute of Technology – Budapest, Hungary
Semester Abroad: Concentration in Computer Science (Fall, 2018)

Technical Background

Programming Python, R, C++, C, PHP, Javascript, CSS/HTML

Libraries PyTorch, Tensorflow, Transformers, Diffusers, Datasets, TRL, SK-Learn, Pandas, Keras, NumPy, Gensim, GloVe, fastText, SciPy, StyleGAN, Seaborn, Matplotlib

Coursework Machine Learning • Computer Systems • Algorithms • Object-Oriented Programming • Quantitative Methods • Qualitative Methods • Design Methods

Research Experience

Summer 2022 - Present **Graduate Student Researcher, University of Washington** – Seattle, WA
Advisor: Dr. Julie Kientz
Worked on several research projects around human-centered AI and educational technologies, specifically focusing on (1) the needs of families and children with speech and language difficulties, (2) children's roles in AI systems, and (3) the design of empowering, playful, and informative multimodal AI experiences.

Winter 2025 - Present **Research Intern, Instructure** – Seattle, WA (Remote)
Analyzed engagement data of several educational technologies to improve accessibility for diverse learners, enhance student retention through data-informed design decisions, and optimize overall usability to create more effective and inclusive learning experiences.

Spring 2024 **Research Consultant, Foundry10** – Seattle, WA (Remote)
Worked on developing an AI-based interactive educational tool for young children that promotes social engagement and collaborative learning.

Summer 2023 **Research Intern, Autodesk** – San Francisco, CA (Remote)
Advisor: Caitlin Silverstein
Worked on understanding technology-mediated workplace communication, specifically focusing on smartphone usage, remote work productivity, and employee behaviors and motivations.

Spring 2021 - Summer 2022 **Research Assistant, Utah State University** – Logan, UT (Remote)
Advisor: Dr. Kristin Searle
Worked on culturally responsive computing projects, focusing on (1) developing interactive prototypes using programmable circuits and electronic textiles, and (2) analyzing middle-school teachers' interactions with these technologies through co-design workshops.

Summer 2018 **Undergraduate Researcher, University of Pennsylvania** – Philadelphia, PA
Advisor: Dr. Ryan Baker
Assisted in creating utility functions for efficiently extracting features from raw MOOC data sources, contributing to the expansion of MORF's Python API.

Peer-Reviewed Conference Publications

2025 [c.10] **Broadening the Scope of Support: Designing for AI-Supported Home Practice in Speech Therapy.**
Conference on Human Factors in Computing Systems (CHI) 2025.
Aayushi Dangol, Aaleyah Lewis, Hyewon Suh, Cecilia Hung, James Fogarty & Julie Kientz
Summary: Explores AI-based solutions to support Speech & Language Pathologists in providing equitable care to culturally and linguistically diverse children with disabilities.
Acceptance Rate: 24.9% Overall.

[c.9] **Exploring AI-Based Support in Speech-Language Pathology for Culturally and Linguistically Diverse Children.**
CHI 2025.
Aaleyah Lewis, Aayushi Dangol, Hyewon Suh, Abbie Olszewski, James Fogarty & Julie Kientz
Summary: Introduces a culturally and framework for AI-supported speech practice to help families with home practice activities.
Acceptance Rate: 24.9% Overall.

[c.8] **Doors, Decisions, and Discovery: Using an Interactive AI-Based Smart Doorlock System to Promote Children's Understanding of AI Classification.**
International Conference of the Learning Sciences (ISLS) 2025.
Aayushi Dangol, Robert Wolfe, Rotem Landesman, Jason Yip, Julie Kientz
Summary: Introduces an AI classification system to help children understand AI concepts.
Acceptance Rate: 30% Overall.

2024 [c.7] **Mediating Culture: Cultivating Socio-cultural Understanding of AI in Children through Participatory Design.**
Designing Interactive Systems (DIS) 2024.
Aayushi Dangol[*], Michelle Newman[*], Robert Wolfe, Jin Ha Lee, Jason Yip, Julie Kientz, & Caroline Pitt.
Summary: Introduces participatory approach to co-designing AI with kids in ways that facilitate an understanding of generative AI as a mediator of culture.
Acceptance Rate: 27% Overall.

[c.6] **Representation Bias of Adolescents in AI: A Bilingual, Bicultural Study.**
AI Ethics and Society (AIES) 2024
Robert Wolfe[*], Aayushi Dangol[*], Bill Howe, & Alexis Hiniker.
Summary: Study comparing biases about adolescents learned by AI to similar biases identified in traditional and news media sources in both the U.S. and Nepal. Conducts workshops with 13 U.S. teenagers and 18 Nepalese teenagers to understand how teenagers themselves view fair representation in media and AI.
Acceptance Rate: 31.8% Overall.

[c.5] **Opportunities and Challenges for AI-Based Support for Speech-Language Pathologists**.
Best Paper Honorable Mention, Human-Computer Interaction for Work (CHIWORK) 2024.
Hyewon Suh, Aayushi Dangol, Hedda Meadan, Carol Miller & Julie Kientz.
Summary: Study offers insights into how AI can be integrated to address Speech-Language Pathologists' needs, increase their capacity, and improve job satisfaction.
Acceptance Rate: Typically competitive within the SIGCHI community.

[c.4] **Dataset Scale and Societal Consistency Mediate Facial Impression Bias in Vision-Language AI.**
AIES 2024.
Robert Wolfe, Aayushi Dangol, Bill Howe, & Alexis Hiniker.
Summary: Study of the factors affecting the presence of facial impression bias in 43 multimodal CLIP models, as well as the reproduction of facial impression biases by generative multimodal models such as Stable Diffusion.
Acceptance Rate: 31.8% Overall.

2023 [c.3] **Constructionist approaches to critical data literacy: A review.**
Interaction Design and Children (IDC) 2023.
Aayushi Dangol & Sayamindu Dasgupta.
Summary: Study examines the importance of teaching critical data literacy to children using constructionist approaches that emphasize power, equity, and justice in engagement with data.
Acceptance Rate: 30% Overall.

[c.2] **Concepts, practices, and perspectives for developing computational data literacy: Insights from workshops with a new data programming system.**
IDC 2023.
Ruijia Cheng, Aayushi Dangol, Frances Marie Tabio Ello, Lingyu Wang & Sayamindu Dasgupta
Summary: Introduces a visual block-based programming system for children to process, analyze, and visualize data.
Acceptance Rate: 30% Overall.

Under Submission in Peer-Reviewed Venues

[u.3] **Designing with ARC Puzzles: Helping Children Grasp the Strengths and Limitations of Generative AI.**
Aayushi Dangol, Runhua Zhang, Robert Wolfe, Trushaa Ramanan, Jaewon Kim, Jason Yip & Julie Kientz
Summary: Introduces the interactive AI Puzzlers system designed to help children understand the capabilities and limitations of generative AI.

[u.2] **Toward Nonviolent Design: Co-Designing a Human-Centered Framework for AI-Mediated Communication.**
Robert Wolfe, Aayushi Dangol, Jaewon Kim, and Alexis Hiniker.
Summary: Introduces a human-centered framework for AI-mediated communication that builds on the principles of Nonviolent Communication (NVC).

[u.1] **Reading AI and Reading the World: Using an Interactive AI System to Promote Children's Understanding of AI Bias.**
Aayushi Dangol, Robert Wolfe, Akeiylah Dewitt, Ben Chickadel, Julie Kientz, and Sayamindu Dasgupta.
Summary: Introduces the interactive CLIP4KIDS system and studies how students understand AI biases in terms of "assumptions" and "stereotypes," drawing connections between historical injustices and present implicit biases in AI models.

Peer-Reviewed Extended Abstracts

2024 [e.2] **AI-Driven Support for People with Speech & Language Difficulties.**
Human Factors in Computing Systems (CHI) 2024.
Aayushi Dangol, Yun Huang, Srirangaraj Setlur, Adele Smolansky, Hariharan Subramonyam, Hyewon Suh, Jinjun Xiong & Julie Kientz
Summary: Special Interest Group (SIG) to explore human-centered AI design for supporting individuals with speech and language difficulties through collaborative discussions among experts in AI, accessibility, speech pathology, ethics, and HCI.
Acceptance Rate: 26.4% Overall.

[e.1] **TogetherTales RPG: Prosocial Skill Development Through Digitally Mediated Collaborative Role-Playing.**
3rd Place in Research and Design Challenge, IDC 2024.
Riddhi Divanji, Aayushi Dangol, Ella Lombard, Katharine Chen & Jennifer Rubin.
Summary: Showcases an AR platform, "TogetherTales RPG," designed to foster prosocial behavior in children aged 4 to 6 through AI-driven, collaborative role-playing experiences.
Acceptance Rate: 30% Overall.

Workshop Publications

2024 [w.2] **Advancing Inclusive Education: AI-driven Technologies for Children with Speech and Language Difficulties.**
ACM CHI 2024 Workshop on Transformative Technologies for Children: Going beyond Good.
Aayushi Dangol, Cecilia Hung, Hyewon Suh & Julie Kientz.
Summary: Proposes a Value Sensitive Design approach for advancing the design of AI-driven tools for children.

2023 [w.1] **Human Centered Design of AI Technology for Children with Speech and Language Difficulties.**
IDC 2023 Workshop on Designing AI Interfaces for Children with Special Needs in Educational Contexts.
Julie Kientz, Yun Huang, Aayushi Dangol, Hyewon Suh & Qingxiao Zheng.
Summary: Introduces the **National AI Institute for Exceptional Education**, a $20 million initiative aimed at developing AI tools to enhance speech-language pathologists' ability to screen and deliver interventions for children aged 3-5.

Invited Talks

January 2024 **Building AI Literacy in Children: Teaching the Next Generation**.
Korea Foundation for the Advancement of Science & Creativity.
Presentation of curriculum development efforts aimed at fostering AI literacy among children, emphasizing early engagement with AI concepts.

September 2024 **Improving Employee Experience for Early Career Professionals**.
Autodesk.
Presented research findings to enhance the experience of early career professionals by leveraging insights into communication patterns and technology use, offering recommendations for improving engagement and productivity in remote and hybrid work environments.

Community Involvement

2023-2024 **Discovery Day, University of Washington.**
Developed a system that allows children to collaborate with AI to solve visual based logic puzzles. System was used as part of the university's initiative to promote engineering innovation and knowledge for children ages 6-14.

2023-2024 **STEM Summer Camp, University of Washington.**
Developed a two-player guessing game using generative AI, designed for neurodiverse children to interact with AI systems.

2023-2024 **University Children's Development School, Seattle, WA.**
Developed a system for allowing children to interact with multimodal AI systems and reason about AI fairness in a controlled context. System used as part of the curriculum for upper-elementary school children.

2017-2020 **Nepali Girls Code, Kathmandu, Nepal.**
Started a social-impact project to increase equity and representation of girls in the field of Computer Science in Nepal. Developed and taught unplugged Computer Science lessons.

Grants, Awards, and Honors

2022-2025 **College of Engineering Dean's Fellowship, University of Washington**: $10,000.
Awarded a four-year, $10,000 stipend based on demonstrated research promise in advancing PhD studies.

2022-2024 **Ceres Scholar, Jacobs Foundation**
Received support through coursework, workshops, mentoring, and collaboration opportunities within the CERES network, all aimed at advancing research and professional development.

2022-2023 **Janney Fellowship, Swarthmore College**: $5,000.
Awarded a two-year, $5,000 fellowship to support advanced graduate work in recognition of academic excellence while at Swarthmore College.

2022-2023 **Lang Graduate Scholarship, Swarthmore College**: $5,000.
Awarded $5,000 for two years to support graduate work in recognition of demonstrated social-impact while at Swarthmore College.

2023 **CRA-WP Grad Cohort for Women**
Received Scholarship to attend Grad Cohort Workshop, April 2023 in San Francisco, USA.

2017-2020 **Lang Opportunity Scholarship, Swarthmore College**: $27,000.
Awarded $27,000 to support the development of a social-impact project in the U.S or abroad.

2019 **Monroe C. Beardsley Fellowship, Swarthmore College**: $4500.
Awarded $4500 to support summer undergraduate research.

2019 **Grace Hopper Celebration Scholarship, Anita Borg Foundation**:
Received Scholarship to attend the Grace Hopper Celebration, October 2019 in Orlando, USA.

2017 **John W. Nason Community Service Fellowship, Swarthmore College**: $4500.
Awarded $4500 to support summer undergraduate research.