

## RESEARCH STATEMENT

My research lies at the intersection of Human-Computer Interaction (HCI) and Accessibility, with a strong focus on human-centered design. I study, design, and build **inclusive AI systems** that empower marginalized communities to actively participate in creative and artistic experiences. A central thread of my work is **music accessibility for d/Deaf and hard-of-hearing (DHH) individuals**, where I leverage generative AI and multimodal systems to support culturally sensitive musical experiences.

## EDUCATION

- Sep 2021 - (Expected) 2026 **Ph.D. in Computer Science** | University of Toronto, Canada  
Thesis topic: Multimodal AI Systems for Music Accessibility for d/Deaf individuals  
Committee: Khai N. Truong (Supervisor), Fanny Chevalier, Ashton Anderson
- Mar 2017 - Feb 2021 **B.S. in Computer Science & Engineering** | Ewha Womans University, South Korea  
*Summa Cum Laude*, Dean's List for all semesters

## INDUSTRY RESEARCH

- May 2025 - Aug 2025 **Research Scientist/Engineer Intern** | Adobe Research, New York, United States  
CAVA - STORIE LAB (Advisor: *Anh Truong*, Oriol Nieto, Prem Seetharaman, Justin Salamon)  
Created a generative AI tool to support sound effect design for video creators (*CHI '26*)  
*Selected for Adobe MAX sneaks 2025 - The Creativity Conference. Project "Sound Stager"*. [Video](#)
- May 2024 - Sep 2024 **Ph.D. Research Intern** | NAVER AI Lab, Seoul, South Korea  
Human - Computer Interaction Research Group (Advisor: *Dr. Young-Ho Kim*)  
Built a conversational AI system (LLM-leveraged) for song-signing translation. (*CHI '25*) [Website](#)
- Jun 2022 - Feb 2023 **Ph.D. Research Intern** | Samsung AI Center (SAIC), Toronto, Canada  
Mobile and Distributed Intelligence Lab (Advisor: *Dr. Iqbal Mohamed*)  
Developed feature based video summarization methods for activity recognition system application.

## ACADEMIC RESEARCH

- Sep 2021 - Present **Research Assistant** | University of Toronto  
Dynamic Graphics Project (DGP) Lab (Advisor: *Prof. Khai N. Truong*)  
Human-AI Interaction for Accessibility and Creativity Support; **Music accessibility for d/Deaf individuals**  
Thesis projects: exploring song-signing practices (*CHI '23*), LLM-based lyric-to-ASL translation (*CHI '24*), facial avatars for musical expression (*CHI '26*), and the cultural impact of self disclosure (*CHI '26*).
- Jul 2020 - May 2021 **Undergraduate Research Intern** | Ewha Womans University  
Human-Computer Interaction Lab (Advisor: *Prof. Uran Oh*)  
Participated in research on increasing the accessibility of comics for people with visual impairments.  
Made an 'Accessible Digital Comics' app using AWS Polly and SVG files. (*W4A '21*, *TACCESS '22*)
- Dec 2018 - Jun 2020 **Distributed Computing and Operating System Lab** (Advisor: *Prof. Hyokyung Bahn*)  
Led research on optimizing scheduling algorithms for real-time and interactive tasks in multi-processors to reduce the power of the system. (*IIBC '20*, *RTCSA '20*, *TII '21*, *RTSS'21*)

## PATENT

- System and Method for Sound Design**. US Patent applied for (N/M). 2026. Adobe Research  
[Suhyeon Yoo](#), Adolfo H. Santisteban, Prem Seetharaman, Justin Salamon, Oriol Nieto, Anh Truong

- [J4] **Enhancing collaborative signing songwriting experience of the d/Deaf individuals.**  
Yujin Choi, ChungHa Lee, Songmin Chung, Eunhye Cho, Suhyeon Yoo, Jin-Hyuk Hong  
International Journal of Human-Computer Studies, 193, 103382 (IJHCS 2025) [DOI](#)
- [J3] **AccessComics2: Understanding the User Experience of an Accessible Comic Book Reader for Blind People with Textual Sound Effects.**  
Yun Jung Lee, Hwayeon Joh, Suhyeon Yoo, Uran Oh  
ACM Transactions on Accessible Computing, 16(1), 1-25. (TACCESS 2023) [DOI](#)
- [J2] \* **Integrated scheduling of real-time and interactive tasks for configurable industrial systems.**  
Suhyeon Yoo, Yewon Jo, Hyokyung Bahn  
IEEE Transactions on Industrial Informatics, 18(1), 631-641. (TII 2021) [DOI](#)
- [J1] \* **Real-Time Power Saving Scheduling Based on Genetic Algorithms in Multi-core Hybrid Memory Environments.**  
Suhyeon Yoo, Yewon Jo, Kyung-Woon Cho, Hyokyung Bahn  
The Journal of the Institute of Internet, Broadcasting and Communication, 20(1), 135-140. (IJIBC 2020) [DOI](#)

- [C10] \* **SoundStager: Interactive Design of Story-Driven GenAI Soundscapes for Video.**  
Suhyeon Yoo, Adolfo H. Santisteban, Prem Seetharaman, Justin Salamon, Oriol Nieto, Anh Truong  
Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (pp. 1-26).  
(CHI 2026) **25.3% Acceptance Rate** [DOI](#)
- [C9] \* **FAME: Exploring Expressive Facial Avatars for Lyrical and Non-Lyrical Music Visualization for d/Deaf individuals.**  
Suhyeon Yoo, Yifang Pan, Ashish Ajin Thomas, Karan Singh, Khai N Truong  
Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (pp. 1-19).  
(CHI 2026) **25.3% Acceptance Rate** [DOI](#)
- [C8] \* **Disclosure Matters: How Self-Disclosure Statements in Song Signing Videos Shape d/Deaf Audiences' Acceptance of Culturally Sensitive Content**  
Suhyeon Yoo, Somang Nam, Mark Chignell, Khai N Truong  
Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems (pp. 1-18).  
(CHI 2026) **25.3% Acceptance Rate** [DOI](#)
- [C7] \* **CuCap: Comparative Analysis of Customized Captioning between North American and South Korean d/Deaf and Hard-of-Hearing Users**  
Caluã de Lacerda Pataca\*, SooYeon Ahn\*, Suhyeon Yoo\*, JooYeong Kim, Khai N Truong, Jin-Hyuk Hong, Roshan L Peiris, Matt Huenerfauth (\*Co-first authors)  
Proceedings of the 27th International ACM SIGACCESS Conference on Computers and Accessibility (pp. 1-20) (ASSETS 2025) [DOI](#)
- [C6] **Large Language Model Agents for Improving Engagement with Behavior Change Interventions: Application to Digital Mindfulness**  
Harsh Kumar, Suhyeon Yoo, Angela Zavaleta Bernuy, Jiakai Shi, Huayin Luo, Joseph Jay Williams, Anastasia Kuzminykh, Ashton Anderson, Rachel Kornfield  
Proceedings of the ACM on Human-Computer Interaction, 9(7), 1-44. (CSCW 2025) [DOI](#)
- [C5] **Toward More Inclusive Music Experience: Understanding Deaf and Hard-of-hearing Individuals' Everyday Music Activities**  
HyeonBeom Yi, Dasom Choi, Suhyeon Yoo, Youngmi Song, JunWoo Lee, ChiYoon Jeong, Sungyong Shin  
Proceedings of the 2025 ACM Designing Interactive Systems Conference (pp. 375-388).  
(DIS 2025) [DOI](#)

- [C4] \* **ELMI: Interactive and Intelligent Sign Language Translation of Lyrics for Song Signing**  
Suhyeon Yoo, Khai N Truong, Young-Ho Kim  
 Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (pp. 1-21).  
 (CHI 2025) [25.1% Acceptance Rate](#) [DOI](#)
- [C3] \* **Behind the Pop-ularity Curtain: Understanding the Motivations, Challenges, and Work Performed in Creating and Managing Pet Influencer Accounts**  
Suhyeon Yoo, Kevin Pu, Khai N Truong  
 Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (pp. 1-17).  
 (CHI 2024) [26.3% Acceptance Rate](#) [DOI](#)
- [C2] \* **Understanding tensions in music accessibility through song signing for and with d/Deaf and Non-d/Deaf persons**  
Suhyeon Yoo, Georgianna Lin, Hyeon Jeong Byeon, Amy S Hwang, Khai Nhut Truong  
 Proceedings of the 2023 CHI conference on human factors in computing systems (pp. 1-18).  
 (CHI 2023) [28.39% Acceptance Rate](#) [DOI](#)
- [C1] **AccessComics: an accessible digital comic book reader for people with visual impairments**  
 Yunjung Lee, Hwayeon Joh, Suhyeon Yoo, Uran Oh  
 Proceedings of the 18th International Web for All Conference (pp. 1-11).(W4A 2021) [DOI](#)

## SHORT PAPERS

### Lightly Reviewed Works

- [S4] \* **Enhancing Music Accessibility through AI Systems for and with d/Deaf Individuals**  
Suhyeon Yoo  
 ACM SIGACCESS Accessibility and Computing (ASSETS 2025) [Doctoral Consortium & Poster] [DOI](#)
- [S3] **Out-of-home Experiences of People with Mild Cognitive Deficits**  
 Vanessa Fan, Anna Krosinski, Amy Hwang, Suhyeon Yoo, Khai N Truong, Rosalie Wang  
 Canadian Association of Occupational Therapy Conference (CAOT 2023) [Abstract] [DOI](#)
- [S2] \* **Integrated scheduling of real-time and interactive tasks for configurable industrial systems.**  
Suhyeon Yoo, Yewon Jo, Hyokyung Bahn  
 IEEE Real-Time Systems Symposium (RTSS 2021) [Work already Published] [DOI](#)
- [S1] **Power-Saving Integrated Task Scheduling in Multicore and Hybrid Memory Environment**  
 Yewon Jo, Suhyeon Yoo, Hyokyung Bahn  
 IEEE 26th International Conference on Embedded and Real-Time Computing Systems and Applications (pp. 1-2) (RTCSA 2020) [Student Session] [DOI](#)

## TALKS

### “AI Systems for Music Accessibility”

- Mar 2026 **KIX Lab** | KAIST, South Korea  
 Host: Prof. Juho Kim, DaEun Choi
- July 2025 **Computer Science and Artificial Intelligence Lab (CSAIL)** | MIT, United States  
 Host: Prof. Anna Huang, Stephen Brade
- Mar 2025 **UX Research Team** | Youtube, United States  
 Host: Dr. Cynthia Bennett, Aidan Bryant
- Aug 2024 **Sketch Lab** | KAIST, South Korea  
 Host: Seok-Hyung Bae
- Aug 2024 **Human sensory augmentation Lab** | ETRI, South Korea  
 Host: Dr. HyeonBeom Yi
- July 2024 **Human-AI Interaction Lab** | Sungkyunkwan University (SKKU), South Korea  
 Host: Prof. Hayeon Song

- June 2024 **Ix (Interaction Experience) Lab** | Chung Ang University (CAU), South Korea  
Host: Prof. Eunji Park
- June 2024 **HCI (Human Computer Interaction) Lab** | Seoul National University (SNU), South Korea  
Host: Prof. Jinwook Seo, Jeon Byeon
- Nov 2024 **COoKIE Lab** | University of Toronto, Canada  
Host: Prof. Anastasia Kuzminykh
- Oct 2023 **HCI (Human Computer Integration) Lab** | University of Chicago, USA  
Host: Prof. Pedro Lopes, Romain Nith
- Oct 2023 **CAIR (Center for Accessibility and Inclusion Research) Lab** | RIT, USA  
Host: Prof. Matt Huenerfauth, Prof. Caluã de Lacerda Pataca
- June 2023 **HCI (Human-Computer Interaction) Lab** | Ewha Womans University, South Korea  
Host: Prof. Uran Oh
- May 2023 **SCI (Soft Computing & Interaction) Lab** | GIST, South Korea  
Host: Prof. Jin-Hyuk Hong

## TEACHING

- Winter 2026, Fall 2024 **Lead Teaching Assistant (TA)** | University of Toronto  
The Design of Interactive Computational Media (CSC318 - Undergraduate)  
Supervised TAs, facilitated tutorial sessions.
- Winter 2026 **Teaching Assistant (TA)** | University of Toronto  
Topics in Interactive Computing (CSC2524 - Graduate)  
Moderated paper discussions, graded weekly reaction reports and final projects.
- Winter 2026 **Teaching Assistant (TA)** | University of Toronto  
Topics in Ubiquitous Computing (CSC2526 - Graduate)  
Provided feedback on weekly paper summaries.
- Winter 2025, 2024  
Fall 2025, 2024 **Teaching Assistant (TA)** | University of Toronto  
The Design of Interactive Computational Media (CSC318- Undergraduate)  
Led tutorial sessions, provided feedback on assignments and projects.
- Fall 2023 **Teaching Assistant (TA)** | University of Toronto  
Topics in Computational Social Science (CSC 2552 - Graduate)  
Guided class discussion, provided feedback on paper reviews.
- Winter 2022 **Teaching Assistant (TA)** | University of Toronto  
Human Computer Interaction (CSC 428/2514 - Undergraduate/Graduate)  
Created class material, corresponded with Guest Speakers, held tutorials for assignments/projects.
- Spring 2020 **Peer Instructor (Tutorial TA)** | Ewha Womans University  
Operating Systems (20477-01- Undergraduate)  
Uploaded a 400 min tutoring video of concepts explanation, and answered students' questions.

## MENTEES

- Sep 2024 - Present **Joy (Xi) Wang** | Department of Computer Science, University of Toronto  
Undergraduate research assistant. Now Masters student at University of Cambridge.

Sep 2021 - Feb 2022

**Hyeonjeong Byeon** | Department of Computer Science, University of Toronto  
Visiting student from Ewha Womans University. Now a Ph.D. student at University of Washington.

## MENTORING

Winter 2026, 2025, 2024

**PRISM Mentor** | Department of Computer Science, University of Toronto  
Preparation for Research through Immersion, Skills, and Mentorship (PRISM). [Website](#)

Winter 2026, Fall 2021

**DCS Women Mentor** | Department of Computer Science, University of Toronto  
Guided undergrad students who dream of going to grad school. [Website](#)

Jan 2023 - Dec 2025

**GSM Mentor** | Girls SySTEM Mentorship Program  
Mentoring grade 9 and 11 students who are interested in pursuing STEM study. [Website](#)

Fall 2025, 2024, 2023

**GAAP Mentor** | Department of Computer Science, University of Toronto  
Graduate Application Assistance Program (GAAP). Reviewed applications. [Website](#)

Mar 2021 - Dec 2025

**SAGE Mentor** | Studying Abroad Graduates of Ewha Womans University  
Led a graduate school prep session. Helped 25 students' grad school application process. [Website](#)

## ACADEMIC SERVICES

**External Reviewer** | ACM Conferences

**CHI:** ACM Conference on Human Factors in Computing Systems  
Full Papers (2026, 2025, 2024)

2 Special Recognitions for Outstanding Reviews for CHI 2024 Papers  
2 Special Recognitions for Outstanding Reviews for CHI 2026 Papers

**CSCW:** The ACM Conference on Computer Supported Cooperative Work  
Full Papers (2025)

**CHI LBW:** ACM Conference on Human Factors in Computing Systems, Late Breaking Work  
Short Papers (2025, 2024)

**DIS WIP:** ACM Conference on Designing Interactive Systems, Work-in-Progress  
Short Paper (2025)

1 Special Recognition for Outstanding Reviews for DIS Work-in-Progress

**Session Chair** | ACM Conference

**CHI:** ACM Conference on Human Factors in Computing Systems  
Session (Papers, 2025): "Communication and Support" [Program](#)

## VOLUNTEERING

Sep 2025

**Graduate Student Ambassador** | Department of Computer Science, University of Toronto  
Served as an ambassador in DCS Grad Orientation for the 2025 cohort; Guided social events.

Sep 2022

**Current Graduate Student** | Department of Computer Science, University of Toronto  
Served as a volunteer in DCS grad orientation for 2022 cohort. Organized social events.

Mar 2022

**Graduate Student Panel** | Department of Computer Science, University of Toronto  
Served as a panel in Graduate Visit Week 2021. Shared experience with prospective students.

Oct 2021

**Student Volunteer** | ACM Conference on Computers and Accessibility  
ASSETS 2021. Reviewed videos for Poster and Demo sessions.

## SCHOLARSHIPS & AWARDS

June 2025	<b>SRI (Schwartz Reisman Institute) Graduate Fellows</b>   University of Toronto For students who are committed to ensuring that technologies benefit all of society.
Aug 2025	<b>Korean Honor Scholarship</b>   Consulate General of the Republic of Korea in Toronto For outstanding students of Korean heritage to encourage achievement in academic performance.
June 2023	<b>PPEF - Beatrice "Trixie" Worsley Graduate Scholarship</b>   University of Toronto For students who have taken an active role in promoting women in Computer Science.
June 2023	<b>Korean Canadian Scholarship Foundation KCSF Scholarship</b>   KCSF For exemplary Korean post-secondary students in Canada.
Fall 2022 - Winter 2023	<b>OGS (Ontario Graduate Scholarship) Award</b>   Province of Ontario Ontario's best graduate students.
Fall 2021- Winter 2023	<b>Wolfond Fellowship</b>   Department of Computer Science, University of Toronto For outstanding students studying mobile computing and HCI.
Sep 2020	<b>Fulbright Graduate Student Program Award (Declined)</b>   <b>Fulbright Korea</b> Nationally awarded fellowship supporting graduate study in the United States.
Spring 2020, Fall 2019	<b>Best Honors Scholarship</b>   Ewha Womans University For students in <b>1st place</b> in each major (1 / 364).
Spring 2020	<b>Best Tutor Award (Teaching Excellence Award)</b>   Ewha Womans University For responsible and sincere tutors who are highly rated by their tutees.
Spring 2020	<b>Academic Activity Support Scholarship</b>   Ewha Womans University For students who have demonstrated good research results.
Fall 2019, Fall 2018	<b>Future Competent Scholarship</b>   Ewha Womans University For undergraduate research intern who is recommended by the assigned professor.
Spring 2019, Fall 2017	<b>Honors Scholarship</b>   Ewha Womans University For students who are in the top 4 percent in each college.
Dec 2020	<b>Korea National Portfolio Contest</b>   Accreditation Board for Engineering Education of Korea   <b>3rd Place</b> National-wide competition from each regional unit representatives.
Oct 2020	<b>Portfolio Contest</b>   Korea University Innovation Center for Engineering Education   <b>2nd Place</b> Two representative students from each university in Seoul presented their portfolios.

## EXTRACURRICULAR ACTIVITIES

Sep 2021 - Aug 2025	<b>UTKGPSA (University of Toronto Korean Graduate Student Association)</b>   President Promoting interdepartmental communication among Korean students across the University of Toronto. Fostering solidarity through academic and social events. <a href="#">Page</a>
Sep 2018 - Aug 2021	<b>ON - Sketch (Drawing &amp; Crafting Club)</b>   Vice President Managed finances and scheduled event plans. Met twice a month to make crafts together.
Mar 2018 - Aug 2019	<b>Acoustic Playground (Yonsei &amp; Ewha Acoustic Guitar Club)</b>   Member Practiced acoustic guitar twice a week. Performed in concert twice.

## PRESS

### Project Sound Stager - GS3-9

Adobe MAX Sneaks 2025.11.10 [Session](#) [YouTube](#) [News](#)

### Research Team of Professor Bahn Hyo-kyung Publishes a Paper in IEEE Transactions on Industrial Informatics

Ewha News 2021.06.18 [News](#)

## SKILLS

### Programming & Prototyping

Advanced: Python / Intermediate: [C, C++, C#, Java] / Basic: [Html, CSS, MIPS, SQL]

### Qualitative research

Co-design, Interview, Focus group interviews, Tech probe, Content analysis, Field deployment study

## REFERENCES

### Prof. Khai N. Truong

Professor of Computer Science | University of Toronto

<https://www.cs.toronto.edu/~khai/> [khai@cs.toronto.edu](mailto:khai@cs.toronto.edu)

### Prof. Uran Oh

Associate Professor of Computer Science and Engineering | Ewha Womans University

<https://hcil-ewha.github.io/> [uran.oh@ewha.ac.kr](mailto:uran.oh@ewha.ac.kr)

### Dr. Young-Ho Kim

Director/Principle Scientist | NAVER AI LAB

<http://younghokim.net/> [yghokim@younghokim.net](mailto:yghokim@younghokim.net)

### Anh Truong

Research Engineer | Adobe Research (Now at Google DeepMind)

<https://scholar.google.com/citations?user=O3xpA-AAAAAJ&hl=en> [anhtruong00@gmail.com](mailto:anhtruong00@gmail.com)

### Prof. Hyokyung Bahn

Professor of Computer Science and Engineering | Ewha Womans University

<http://home.ewha.ac.kr/~bahn> [bahn@ewha.ac.kr](mailto:bahn@ewha.ac.kr)

### Prof. Karan Singh

Professor of Computer Science | University of Toronto

<https://discover.research.utoronto.ca/1003-karan-singh> [karan@cs.toronto.edu](mailto:karan@cs.toronto.edu)