Chenfeng (Jesse) Gao

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AxLab, University of Chicago

RESEARCH INTERESTS

Reality-Virtuality Continuum / Shape-Changing Interfaces / Tangible user interfaces / Swarm Robot / Multimodal interaction / Creative Interfaces / Future work in Collaboration / Data Visualization

EDUCATION

University of Chicago Chicago, IL
Master of Science (M.S.) in Computer Science 2022 - Mar 2024
- Advisor: Ken Nakagaki, PhD

IIT Institute of Design Chicago, IL
Master of Design (M.Des.) in Human-computer Interaction 2019 - 2021
- Advisors: Anijo Mathew, PhD, Santosh Basapur, PhD and Zach Pino

Renmin University of China Beijing, China
Bachelor of Science (B.S.) in Math and Applied Math 2013 - 2017

PUBLICATION

1. **Chenfeng Gao***, Wanli Qian*, …, Ken Nakagaki. (submitting to CHI 2024). (title and contents shared upon request)

2. Lilith Yu*, **Chenfeng Gao***, David Wu, and Ken Nakagaki. 2023. AeroRigUI: Actuated TUIs for Spatial Interaction using Rigging Swarm Robots on Ceilings in Everyday Space. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23), April 23–28, 2023, Hamburg, Germany. ACM, New York, NY, USA, 18 pages. https://doi.org/10.1145/3544548.3581437

3. Jiatong Li*, **Jesse Gao*,** and Ken Nakagaki. 2022. ShadowAstro: Levitating Constellation Silhouette for Spatial Exploration and Learning. In The Adjunct Publication of the 35th Annual ACM Symposium on User Interface Software and Technology (UIST '22 Adjunct), October 29-November 2, 2022, Bend, OR, USA. ACM, New York, NY, USA, 3 pages. https://doi.org/10.1145/3526114.3561345

AWARDS / HONORS & Press

"Ceiling robots can reconfigure room lights and curtains" *NewScientist*	**2023**
Jury Honorable Mention Award, *ACM-UIST SIC 2022*	**2022**
Student Notable Health/Wellness Design Award, *Core77*	**2022**
Best Student Design of 2022, Honorable Mentions, *Fast Company*	**2022**
$27,500 Merit Scholarship, *University of Chicago*	**2022**
Master Challenges Competition'21, Winner, *IIT Institute of Design & Harvard D-Lab*	**2021**
Master Challenges Competition'20, Winner, *IIT Institute of Design & Verizon*	**2020**

RESEARCH EXPERIENCE

University of Chicago, Actuated Experience Lab (AxLab) Chicago, IL

Graduate Researcher *advised by Dr. Ken Nakagaki* May 2022- Present
- Research topic: TUI, Shape-changing Interface, actuated technologies, robotic.
- Collaborated with Dr. Rana Hanocka on project with Generative AI in 3D application.
- Collaborated with Dr. Sarah Sebo on project with HRI.
- Collaborated with Dr. Ryo Suzuki on project with Shape-changing Interfaces.
- Lead workshops for lab mates covering design methods topics, Unity tutorials, and reviews on AI-integrated tangible research.

Rush University Medical Center Chicago, IL
Graduate Research Assistant *with Dr. Santosh Basapur* Dec 2021 – Apr 2022
- Conducted research with Translational Research team on how Virtual Reality could help problem solving in the medical area. The abstract has been accepted by TE (Transdisciplinary Engineering for Resilience) 2022.
- Built multiplayer social VR prototypes in Unity.
- Write study protocol to lead the test and analyze the human insights, conducted literature review in Design studio in VR.

Harvard University | D-Lab at T.H. Chan School of Public Health Boston, MA
Graduate Research Assistant *with Dr. André Nogueira* May – Dec 2021
- Research for the "Whole Life" project with strategic design methods (the Whole View Model), a global public health study funded by Bill & Melinda Gates Foundation, that studies over 1,200 households in 15 different countries to see how they cope with Covid-19
- Published two activity-focused strategic design reports based on the above project, which received the Notable Health & Wellness Design Award from the Core77 Design Network in 2022

Renmin University of China | LISA lab Beijing, China
Undergraduate Research *advised by Dr. Wei Xu* Jun 2014 – Jun 2015
- Helped team members to understand and apply the mathematical principle behind GA and ANN.
- Collaborated on a financial optimization project, utilizing the Genetic Algorithm to address the challenge.

EXHIBITION

MSI (Museum of Science + Industry Chicago) Robot Block Party Chicago, IL, Apr 2023
Traffic Data, AeroRigUI

Axhibition 2023 (held by AxLab, University of Chicago**)** Chicago, IL, Mar 2023
AeroRigUI, SHAPE-IT

Expo 2020 Dubai via virtual portal in Herman Miller showroom Chicago, IL, Nov 2021
Orgo: Hybrid Socialization in workspace

IIT Institute of Design EOYS 2021 Chicago, IL (Online), Nov 2021
Digital Ghost: Discursive Design in VR Exhibition

PROFESSIONAL PRACTICE

Herman Miller Chicago, IL
MR User Researcher Sep – Dec 2021
Designed a future scenario by connecting remote and on-site workers via MR aiming to improve socialization in hybrid working space, project was exhibited in Dubai EXPO 2022

iMotions A/S. Boston, MA
VR Specialist Jun – Aug 2021
Helped the company integrate Varjo XR-3 headset functions into iMotions software to analyze the study of collected human data in XR environments.

Panorama Innovation   Chicago, IL
User Researcher Intern   Jan – Mar 2021
Put the user research skills learned in ID into practice as a user researcher in a design consulting firm.

Itch.io   (remote) Chicago, IL
Indie game designer/developer   Sep – Dec 2020
Applied spatial design and practiced WebXR-API in game design

Verizon Wireless   (remote) Chicago, IL
MR UX Prototyper   May – Aug 2020
Designed a virtual club experience system in Mixed Reality by applying post human center design method.

Startup (AirTune App)   Chicago, IL
UI & Product designer   Mar – Sep 2020
Built and designed a music App where friends can add songs to a queue which can be played by one device.

Zhonglianxin Commercial and Trading Company   Lanzhou, China
Project Manager   Sep 2017 – May 2019
Improved the accounting process in construction sites with customized OCR program.

LesPark   Beijing, China
Product Manager Intern   Nov 2016 – Jan 2017
Collaborated with the design team to establish and implement design standards and principles tailored to the company's objectives.

Startup (Differ App)   Beijing, China
Co-founder & Product Manager   Sep 2015– Nov 2016
Designed an APP that allows users to share their skills/knowledge in video format and held 30+ online sharing activities.

ADDITIONAL SKILLS

Design Methods:
Contextual inquiry, data visualization, ethnography, observing users, journey map, participatory design, problem framing, prototyping, speculative design, system mapping, thematic analysis, usability testing, etc.

Programming:
C#, Python, R, Java, C, JavaScript, HTML/CSS, OpenCV. XR Development with Unity certification

REFEREES

Ken Nakagaki, PhD
Assistant Professor, Department of Computer Science
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Ryo Suzuki, PhD
Assistant Professor, Department of Computer Science
University of Calgary
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Anijo Mathew, PhD
Dean,
Institute of Design, Illinois Institute of Technology
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Santosh Basapur, PhD
Director of Design, Assistant Professor
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