

Yinmiao Li

Master Student

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I'm pursuing my master's in Educational Technology and Applied Learning Science (METALS) through the School of Computer Science, Carnegie Mellon University. I'm seeking PhD opportunities in field of Human Computer Interaction and Educational Technology. I'm currently working as a Research Assistant in an independent study in CMU, aiming at understanding and designing social programmable robots to engage more girls of color into technology field.

Education

2020.08 – Current

Master of Science: METALS

Carnegie Mellon University - Pittsburgh, PA

2016.08 – 2020.05

Bachelor of Science: Interactive Media Arts, minor in CS

New York University Shanghai – Shanghai

- Awarded Major Honors in Interactive Media Arts
- Awarded Cum laude
- Dean's Honor List Fall 2017 - Spring 2018
- Dean's Honor List Fall 2018 - Spring 2019
- Dean's Honor List Fall 2019 - Spring 2020

Publications

Conference Publications

Full Paper:

- Zhang, Y., Li, Y., Chin, D., & Xia, G. (2019). Adaptive Multimodal Music Learning via Interactive-haptic Instrument. Music Proceedings of the International Conference on New Interfaces for Musical Expression, UFRGS, pp. 140-145.

Short Paper:

- Li, Y., Piao, Z., & Xia, G. (2021). A Wearable Haptic Interface for Breath Guidance in Vocal Training. In NIME 2021. <https://doi.org/10.21428/92fbeb44.6d342615>

Poster Presentation:

- Fangqing He, Yumih Chang, Yinmiao Li, Mingnan Du, and Qianyi Chen. 2021. Programmable Little Red: A Multi-thread Immersive and Interactive Storytelling Approach to Learning Conditional Statements. In Proceedings of the 17th ACM Conference on International Computing Education Research (ICER 2021), August 16–19, 2021, Virtual Event, USA. ACM, New York, NY, USA, 2 pages. <https://doi.org/10.1145/3446871.3469797>

Conferences

International Conference on New Interface for Musical Expressions 2021 , Art Installation Co-Chair,
Pamela Z award Jury.

Research Experience

Independent Studies Research assistant

Pittsburgh, US 2021.9 – now

- Social Programmable Robot: This independent study focuses on assisting in thematic analysis of qualitative data that previously collected in social programmable robot project. The project engaged middle school girls of color to co-create with robots, in which participants reflect on their culture and identity. With collected data from six codesign sessions, we would investigate their response to questions of “what it means to create a robot”, and “how to balance their agency and the robot's agency”, to further analyze their reflection on their communities, culture and identities.

Independent Studies Research Co-Lead

Shanghai, China 2020.12 – now

- “Programmable Little Red: A Multi-thread Immersive and Interactive Storytelling Approach to Learning Conditional Statements”: To further maximize the effectiveness of digital storytelling in developing the CT of grade school students, we proposed building upon the digital narrative by means of an immersive environment and the inclusion of interactive tasks. The research established an immersive classroom setup and an interactive approach to CT education inspired by immersive theater, integrating stage design and sensory-based physical interactions into screen-based interactions. A 4-day workshop was developed and hosted to assess the proposed learning system with 6 children aged 11-12 years old. The outcome, gleaned from participant's reviews, showed that students who had previous experience with conventional computing education preferred the immersive and interactive approach to digital storytelling. Students found the proposed learning system more engaging and were able to better solve authentic problems using CT.

Research assistant

Shanghai, China 2018.2 – 2021.8

- Haptic Breath Guidance: We present a wearable haptic device to guide *diaphragmatic breathing*, which can be used in vocal training as well as the learning of wind instruments.

Research assistant

Abu Dhabi, UAE 2019.6 – 2019.8

- Haptic Writing Device: This project creates a writing device teaching kids to write characters. The user will hold a magnet pen, and magnet under the working interface will guide the users. I'm in charge of building software interface for both writing guidance and the recording interface. The project used Python with “pygame” library and combined with Raspberry Pi.

Research assistant

Shanghai, China 2018.2 - 2019.6

- Haptic Flute: This Project aims to create a new method for flute tutoring other than the traditional learning method and some other haptic guided methods. The Project uses 3D printer to print the components and uses 6 servos to control the movement of 'C' ring attached on the flutes. Using Arduino's Serial Communication, sending the messages to Processing, and Processing will control the movements of Arduino and to check the correctness. The research paper has been accepted by NIME 2019 conference currently.

Work Experience

2020.08 – 2021.08

Fellow Researcher

IMA Department, NYU Shanghai, Shanghai

- Contributed to research activities by providing specialist input based on professional expertise, practice, experience, and qualifications.
- Delivered personalized educational in physical computing and programming targeting undergrad students from NYU Shanghai
- Provided behavioral and emotional support to individual students to build their projects and enable positive learning outcomes.

2021.06 – 2021.07

Part-time Mentor

MustardTek, Shanghai

- Taught skills in 3D modeling, Circuits Design and Programming via both classroom and individual instruction.
- Encouraged students to co-design with people with disabilities and brought inclusive atmosphere.
- Assisted youth with daily activities, including homework assignments, sports and fitness, art and literacy.

2021.01 – 2021.02

Part-time Mentor

Hackability@UWC, Changshu, China

- Met with group of up to 7 Grade 9-12 students to design assistive technology for people with disabilities.
- Encouraged students to co-design with people with disabilities and brought inclusive atmosphere.

2020.08 – 2020.09

Electrical Engineering Tutor Intern

MFEducation, Shanghai

- Taught secondary school students on circuit design and Arduino programming.
- Supported students to develop problem-solving skills and implement the idea.

2020.07 – 2020.08

Summer Camp Teaching Assistant Intern

Koding Kreators, Shanghai

- Supported teachers on developing the K-12 STEAM course curriculum.
- Assisted students with personalized instruction in class.
- Prepared teaching materials for teachers each class.

2018.06 – 2018.09

Electrical Engineering Tutor Intern

MFEducation, Shanghai

- Taught secondary school students on circuit design and Arduino programming.
- Supported students to develop problem-solving skills and implement the idea.

Skills

Computing Skills (list in order of mastery)

- Arduino
- Processing
- Python
- P5.js
- JavaScript
- HTML, CSS

Collaboration and Communication Skills

- Working in different research groups with close collaboration in teams.

Self-directed Skills

- Have experiences in Independent Studies
 - Collaborated with peers in conducting research project
 - Self-Direct research in research group with Professor from NYU Shanghai
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