

# Jiachen Li

+1 404-263-7524

[jasmine.jiachenli@gmail.com](mailto:jasmine.jiachenli@gmail.com)

jiachen-li.com

## EDUCATION

### **Georgia Institute of Technology**

Atlanta, GA

Aug 2020 – May 2022 Master of Science in Digital Media (4.0/4.0)

### **Beijing University of Posts and Telecommunications (BUPT)**

Beijing, China

Sept 2015 – Jul 2019 Bachelor of Engineering in Electronic Information Science and Technology (Major 3.81/4.0)

### **University of California, Berkeley**

Berkeley, CA

Jan 2018 – May 2018 Exchange student

## EXPERIENCE

### **Graduate Student Assistant Researcher**

Atlanta, GA

May 2021 – present Advised by Dr. Elizabeth Mynatt, GaTech

- Cooperating with Cognitive Empowerment Program (CEP) on using smart home technology and conversational assistants to help seniors with mild cognitive impairment better manage their daily routines.
- Conducting user research with CEP members and their care partners through participatory design sessions, field deployment, user interviews and surveys.
- Designed and developed a smart home reminder system including smart button, smart pillbox, phone, Google Home and other sensors to improve medication adherence.
- Built and deployed customized smart home control systems for dyads in CEP.
- Helped optimize the home data analysis process of sensors and devices and designed different data scenarios for AI Caring Institute.

### **Independent Study Student Researcher**

Atlanta, GA

April 2021 – present Advised by Dr. Michael Nistche, GaTech

- Investigated the ways to design a tangible user interface that emphasized the distance between digital and physical artifacts using clay boards as the tools.
- Conducting 1 speculative design workshop and 1 week-long field study to learn how the participants would tell stories of certain topics using a historical approach of writing cuneiform that pressed objects to clay boards and left imprints as the archives.
- Building a tangible user interface combining physical (clay boards) and digital (animation and text) using conductive paints; conducting 1 design workshop with following surveys and interviews to learn participants' experience on interacting with the interface.

### **Guest Researcher**

Atlanta, GA

Dec 2020 – Aug 2021 Advised by Dr. Gregory Abowd and Dr. Hyunjoo Oh, GaTech

- Helped design PITAS, a thin-sheet robotic material that consists of a phase transition actuating layer and a heating/sensing layer for non-expert makers to create their own devices that can remotely communicate physical information.
- Designed hardware and software systems to test the mechanical and electrical properties of the material, built an animated application to demo PITAS's sensor modality.
- Conducted a study with thirteen makers to gauge the accessibility, design space and limitations of using PITAS as a soft robotic material in designing physical telecommunication devices, organized and took minutes during the workshops.

### **Independent Study Student Researcher**

Atlanta, GA

Jan 2021 – Aug 2021 Advised by Dr. Sang Leigh, GaTech

- Designed a tangible system that used biological signals (EMG, heart rate, etc.) to increase body awareness in yoga practice.
- Built a sensing system including hardware assembly, data transmission and signal filtering.
- Created an interactive figurative animation as representation and visualization of bodily data.
- Conducted workshops with yoga practitioners using the system and evaluated their feedback through interviews and surveys.

### **Undergraduate Student Research Leader**

Beijing, China

Mar 2019 – Oct 2019 Advised by Prof. Fei Lyu, BUPT

- Designed and developed a low-cost system for auxiliary abacus and mathematics learning for k-12 children.
- Built a low-cost smart abacus that recorded the activity of beads and fingers in real-time and provided visual tips as feedback.

- Designed an interactive application based on the physical abacus aiming to overcome the long-standing difficulty in abacus education of building connections between abacus skills and vertical calculation.
- Conducted user interviews with abacus teachers, parents and children to find the gaps, deployed the system to an elementary school and conducted field study for a month.

#### **Guest Researcher**

*Beijing, China*

*Jul 2018 – Dec 2018*

Advised by Prof. Chun Yu, Tsinghua University

- Designed flood-fill algorithm and ellipse fitting techniques based on 125Hz capacitive sensing signal on phone for heterotypic unintentional touch detection.
- Extracted temporal sequences of the max-capacitive point in every core area; performed FFT analysis and generated the frequency spectrum; discovered disparity of spectrum distribution for intentional and unintentional touches.

#### **Undergraduate Student Research Leader**

*Beijing, China*

*Jul 2017 – Jul 2018*

Advised by Prof. Haibin Yan, BUPT

- Built Familyship Face Videos in the Wild (FFVW), a novel video-based face recognition database with blood relationship labels; parsed video data by family of father, mother and children from raw data with tree-structure.
- Proposed an advanced process of face recognition for blood relationship, including extracting key frame, face detection, face alignment and feature recognition using convolutional neural network (CNN).

## **PUBLICATIONS**

[1] Niharika Mathur, Kunal Dhodapkar, Tamara Zubatiy, **Jiachen Li**, Brian D Jones, Elizabeth D Mynatt, A Collaborative Approach to Support Medication Management in Older Adults with Mild Cognitive Impairment Using Conversational Assistants (submitted to *CHI 22*)

[2] Tingyu Cheng, Jung Wook Park\*, **Jiachen Li\***, Charles Ramey, Hongnan Lin, Gregory D. Abowd, Dr. Carolina Brum Medeiros Flipr Sensing, HyunJoo Oh, Marcello Giordano, PITAS: Towards Personal Fabrication of Self-contained Soft Actuators and Sensors for Physical Telecommunication (submitted to *CHI 22*)

[3] **Jiachen Li**, Michael Nitsche, Kuneiform: Design A Tangible Interface Based on the Perceived Distance Between Physical and Digital (in preparation)

[4] Elaine Liu, **Jiachen Li**, Sang Leigh, Michael Nitsche, Augmenting Shared Space Using Body-Awareness-Promoting Interactions to Enhance Yoga Group Experience (in preparation)

[5] Ying Sun\*, **Jiachen Li\***, Yiwen Wei, Haibin Yan. Video-based Parent-Child Relationship Prediction, *IEEE VCIP*, 2018.

(\*: contributed equally)

## **HONORS & AWARDS**

2016-2017 First-Class Scholarship

*Oct 2017*

Outstanding Peer Tutor (10/120)

*Jun 2017*

Outstanding Student (5/120)

*Jan 2017*

## **OTHER SKILLS**

**Hardware-related:** MCU(Arduino), VHDL, Logisim, Multisim

**Programming:** HTML/CSS/JS, Processing/p5.JS, C/C++, Matlab, python, Java

**Design:** Adobe Photoshop/Indesign/Illustrator, Final Cut Pro

**Language:** Proficient in English and Chinese (Mandarin)

**Interest:** Crafts, Photography, Animals, Travelling