

# Junhan (Judy) Kong

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## EDUCATION

**Carnegie Mellon University**, Pittsburgh PA  
2020

May 2019 - May

Master of Science in Computer Science, *GPA 4.00/4.33*

**Advisor: Prof. Jeffrey Bigham**

**Carnegie Mellon University**, Pittsburgh PA  
2019

Aug 2015 - May

Bachelor of Science in Computer Science, *GPA 3.69/4.0*

Additional major in Human-Computer Interaction, minors in Machine Learning and Statistics

## PUBLICATIONS

**Junhan Kong**, Anhong Guo, Jeffrey P. Bigham. "Supporting Older Adults in Using Complex User Interfaces with Augmented Reality.", In *Extended Abstracts of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2019)*. Pittsburgh, PA. DOI: 10.1145/3308561.3354593.

Anhong Guo, **Junhan Kong**, Michael Rivera, Jeffrey P. Bigham. "StateLens: A Reverse Engineering Solution to Making Existing Dynamic Touchscreens Accessible.", In *Proceedings of the 32nd Annual ACM Symposium on User Interface Software & Technology (UIST 2019)*. New Orleans, LA. DOI: 10.1145/3332165.3347873.

## RESEARCH EXPERIENCE

**Graduate Research Assistant, CMU HCII (Advisor: Prof. Jeffrey Bigham)**

May 2019

- Present

*Supporting Older Adults in Using Complex User Interfaces with Augmented Reality*

- Developing authoring tool to create AR user manuals with low cognitive load.
- Proposed modeling of tasks as *actions sequences* of unique *states* identifiable by computer vision and *actions* that trigger state transitions. Designed mapping from input *actions* to AR guidance.
- Presented [demo](#) at **ASSETS 2019** and working on paper submission to IMWUT.

*VizLens++: An Interactive Smartphone App for the Blind*

- Developing iOS app with a computer vision-crowdsourcing pipeline to help visually impaired users use physical interfaces and collect data on their interaction patterns.

**Undergraduate Research Assistant, CMU HCII (Advisor: Prof. Jeffrey Bigham)**

Sep 2017 -

May 2019

[StateLens](#): A Reverse Engineering Solution for Making Existing Dynamic Touchscreens

Accessible

- Ideated *state diagram* modeling of interfaces as state machines containing interaction point info.
- Designed and implemented computer vision pipeline of StateLens that dynamically construct *state diagrams* from point-of-view videos; participated in prototyping 3D printed capacitive accessories.

- Designed and ran technical evaluations; led a number of user study sessions.
- Co-authored a [paper](#) published at **UIST 2019**.

## **UPMC Post-Operative Care Assistant Capstone Project** 2019

Jan 2019 - May

**(Advisors: Prof. Karen Berntsen and Prof. Vincent Aleven)**

- Conducted extensive user research on post-operative care and technology use of older adults through contextual inquiry and interviews.
- Designed the Hebo 2.0 app for post-operative care of Mohr's surgery at UPMC.

## **TEACHING EXPERIENCE**

### **Teaching Assistant, CMU 05-391 Designing Human-Centered Software**

Aug 2017

- Present

**(Instructor: Prof. Chris Harrison)**

Provide support and feedback on group projects and homework; Help refine course design.

### **Teaching Assistant, CMU 15-122 Principles of Imperative Computation**

Aug 2016

- Present

**(Instructor: Prof. Iliano Cervesato)**

Lead weekly labs and recitations; hold weekly office hours to answer student questions; grade homework and exams; provide feedback for course improvement.

## **WORK EXPERIENCE**

### **Software Engineering Intern, Google**

May 2018 - Aug

2018

Designed and implemented a benchmark automation platform that continuously runs microbenchmarks in full isolation, collects results, visualizes performance trend over time and detects regression.

### **Software Engineering and Data Science Intern, Jet.com**

Jun 2017 -

Aug 2017

Designed and implemented an automatic machine learning analytics pipeline to gather information from customer service calls and emails; used ML and NLP tools to perform speech recognition, text mining and relevant product detection, then auto-generate and store analytics data in SQL database.

## **AWARDS AND HONORS**

### **The Boeing Blue Skies Award: Game Changer**

May

2019

### **University Honors** for academic excellence, Carnegie Mellon University

May

2019

### **TartanHacks 2017: Best Educational App**

Feb

2017

### **TartanHacks 2016: Social Impact Prize**

Feb

2016

### **Dean's List**, School of Computer Science, Carnegie Mellon University

*Fall 2015, Spring 2017, Fall 2017, Spring 2018, Fall 2018*

## **SERVICE AND ACTIVITIES**

**BHCI Student Advisory Committee**

Sep 2018 -

May 2019

Provided feedback on CMU BHCI (Bachelor of Human-Computer Interaction) program; collaboratively designed and launched BHCI seminar course 05-300 Undergraduate Pro Seminar.

**Undergraduate Orientation Counselor**

Aug

2018

Facilitated and led activities and discussions for first-year students during orientation week; worked with house fellows and residential staff in residential community building.

**SKILLS**

**Programming Languages:** Python, C++, C, Java, Swift, Objective C, C#, F#, JavaScript, R, SQL

**Tools and Platforms:** Git, Unity, TensorFlow, AWS, OpenCV, CUDA, OpenMP, Hadoop, Spark

**User-Centered Research:** contextual inquiry, heuristic evaluation, affinity diagramming, storyboarding and speed dating, surveys and interviews

**Hardware Prototyping & Fabrication:** Processing, Arduino, PCB design, 3D printing