

# Junhan (Judy) Kong

judykong97.github.io | junhank@andrew.cmu.edu | +1 (412) 961-2452  
5000 Forbes Avenue, Pittsburgh, PA 15213

## EDUCATION

**Carnegie Mellon University**, Pittsburgh PA

May 2019 - May 2020

Master of Science in Computer Science (with Research Thesis), *GPA 4.00/4.33*

**Advisor: Prof. Jeffrey Bigham**

**Carnegie Mellon University**, Pittsburgh PA

Aug 2015 - May 2019

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

Additional Major in Human-Computer Interaction

Minor in Machine Learning and Statistics

## RESEARCH EXPERIENCE

**CMU Human-Computer Interaction Institute, Accessibility Lab**

May 2019 - Current

**Graduate Student Researcher (Advisor: Prof. Jeffrey Bigham)**

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

- Working on authoring tool to create AR user manuals with low cognitive load.
- Exploring modeling and system design of task scaffolding for older adults.
- Presented [demo](#) at **ASSETS 2019** and working on paper submission.

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

- Deploying iOS app with a computer vision-crowdsourcing pipeline to help visually impaired users use physical interfaces and collect data on their interaction patterns.
- Exploring tangibles and other modalities of feedback for visually impaired users.

**CMU Human-Computer Interaction Institute, Accessibility Lab**

Sep 2017 - May 2019

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

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

- Worked on designing, building and iterating on the StateLens system to help visually impaired users use dynamic touchscreen interfaces.
- Ideated modeling of dynamic touchscreen interfaces as *state diagrams*, which represents screen transitions as a state machine and record user interaction information on the edges.
- Designed and implemented the computer vision pipeline of StateLens that dynamically construct *state diagrams* from point-of-view videos.
- Conducted technical evaluations and user studies for paper submission.
- Co-authored [paper](#) published at **UIST 2019** and presented work at Meeting of the Minds CMU Undergrad Research Symposium 2019

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

Jan 2019 - May 2019

**Team member, Tech Lead (Advisor: 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.

## 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: 10.1145/3332165.3347873.

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: 10.1145/3308561.3354593.

## AWARDS AND HONORS

<b>The Boeing Blue Skies Award: Game Changer</b>	May 2019
For the StateLens project presented at Meeting of the Minds CMU Undergrad Research Symposium	
<b>University Honors</b> for academic excellence, Carnegie Mellon University	May 2019
<b>TartanHacks 2017: Best Educational App</b>	Feb 2017
<b>TartanHacks 2016: Social Impact Prize</b>	Feb 2016
<b>Dean's List</b> , School of Computer Science, Carnegie Mellon University	
Fall 2015, Spring 2017, Fall 2017, Spring 2018, Fall 2018	

## TEACHING EXPERIENCE

<b>CMU 05-391 Designing Human-Centered Software</b>	Aug 2017 - Current
<b>Teaching Assistant (Instructor: Prof. Chris Harrison)</b>	
Help students with course projects; Grade and provide feedback on projects and homework.	

<b>CMU 15-122 Principles of Imperative Computation</b>	Aug 2016 - Current
<b>Teaching Assistant (Instructor: Prof. Iliano Cervesato)</b>	
Lead weekly labs and recitations; Hold weekly office hours to answer student questions; Grade homework and exams; Provide feedback for course improvement.	

## WORK EXPERIENCE

<b>Software Engineering Intern, Google</b>	May - 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.	
<b>Software Engineering and Data Science Intern, Jet.com</b>	Jun - 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 analytics data and store in SQL database.	

## SERVICE AND ACTIVITIES

<b>BHCI Student Advisory Committee</b>	Sep 2018 - May 2019
Provide feedback on CMU BHCI (Bachelor of Human-Computer Interaction) program; collaboratively designed and launched BHCI seminar course 05-300 Undergraduate Pro Seminar.	
<b>Undergraduate Orientation Counselor</b>	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.	

## **Undergraduate Student Senate**

Sep 2015 - May 2016

Member of Academic Affairs Committee; collaboratively organized Student-Faculty Lunches.

## **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

**Fabrication:** 3D printing