Junhan (Judy) Kong

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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, 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: 10.1145/3332165.3347873.

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.

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 paper published at **UIST 2019**.

UPMC Post-Operative Care Assistant Capstone Project Jan 2019 - May 2019
(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.

TEACHING EXPERIENCE

Teaching Assistant, CMU 05-391 Designing Human-Centered Software (Instructor: Prof. Chris Harrison) Aug 2017 - Present
Provide support and feedback on group projects and homework; Help refine course design.

Teaching Assistant, CMU 15-122 Principles of Imperative Computation (Instructor: Prof. Iliano Cervesato) Aug 2016 - Present
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 - 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 - 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.

AWARDS AND HONORS

The Boeing Blue Skies Award: Game Changer May 2019
For the StateLens project presented at Meeting of the Minds CMU Undergrad Research Symposium
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
Provide 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