Junhan Kong Curriculum Vitæ

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BIO

Junhan "Judy" Kong is a 5th-year Ph.D. candidate in The Information School at the University of Washington. She is advised by Prof. Jacob O. Wobbrock and is a member of the DUB Group. She obtained her bachelor's and master's degrees in computer science from Carnegie Mellon University with an additional major in human-computer interaction (HCI) and minors in machine learning and statistics. Her research interests include **HCI**, **accessibility**, and **AI for personalization**. Her work seeks to enable computer technologies to understand the varying abilities of their users, and to design, implement, and evaluate tools to make technologies accessible by adapting to these abilities. Specifically, her work focuses on:

- Quantitative characterization of human abilities through user input behavior and sensor data;
- Mixed-initiative interface adaptations based on varying user abilities and contexts.

EDUCATION

University of Washington, Seattle WA   Sep 2020 - Jun 2026 (expected)
Ph.D. in Information Science
Advisor: Jacob O. Wobbrock

Carnegie Mellon University, Pittsburgh PA   May 2019 - May 2020
M.S. in Computer Science
Thesis: An Authoring Tool for Creating Interactive AR User Tutorials by Demonstration
Advisor: Jeffrey P. Bigham

Carnegie Mellon University, Pittsburgh PA   Aug 2015 - May 2019
B.S. in Computer Science
Additional major in Human-Computer Interaction, minors in Machine Learning and Statistics

AWARDS AND HONORS

Special Recognitions for Outstanding Reviews, CHI 2022, UIST 2023 & 2024
Adobe Research Intern Project Expo Winner, Adobe Intern Project Expo 2023
Best Paper Nominee, ASSETS 2022
Boeing Blue Skies Award: Game Changer, CMU Undergraduate Research Symposium 2019
University Honors for Academic Excellence, Carnegie Mellon University
Best Educational App, TartanHacks 2017
Social Impact Prize, TartanHacks 2016
Dean's List, Carnegie Mellon University, School of Computer Science
Fall 2015, Spring 2017, Fall 2017, Spring 2018, Fall 2018

PUBLICATIONS

Full Conference Papers

[C.5] **Junhan Kong**, Mingyuan Zhong, James Fogarty, Jacob O. Wobbrock. The Ability-Based Design Mobile Toolkit (ABD-MT): Developer Support for Runtime Interface Adaptation Based on Users' Abilities. In Proceedings of the ACM on Human-Computer Interaction (MobileHCI '24). 8, MHCI, Article 277, 27 pages. https://doi.org/10.1145/3676524.

[C.4] Momona Yamagami, Alexandra A. Portnova-Fahreeva, **Junhan Kong**, Jacob O. Wobbrock, Jennifer Mankoff. How Do People with Limited Movement Personalize Upper-Body Gestures? Considerations for the Design of Personalized and Accessible Gesture Interfaces. In Proceedings of the 25th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). Association for Computing Machinery, New York, NY, USA, Article 1, 1–15. https://doi.org/10.1145/3597638.3608430.

[C.3] **Junhan Kong**, Mingyuan Zhong, James Fogarty, Jacob O. Wobbrock. Quantifying Touch: New Metrics for Characterizing What Happens *During* a Touch. In The 24th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '22), October 23–26, 2022, Athens, Greece. Association for Computing Machinery, New York, NY, USA. https://doi.org/10.1145/3517428.3544804. ***Best Paper Nominee***

[C.2] **Junhan Kong**, Dena Sabha, Jeffrey P. Bigham, Amy Pavel, Anhong Guo. 2021. TutorialLens: Authoring Interactive Augmented Reality Tutorials Through Narration and Demonstration. In Symposium on Spatial User Interaction (SUI '21). Association for Computing Machinery, New York, NY, USA, Article 16, 1–11. https://doi.org/10.1145/3485279.3485289.

[C.1] Anhong Guo, **Junhan Kong**, Michael Rivera, Frank F. Xu, Jeffrey P. Bigham. 2019. StateLens: A Reverse Engineering Solution for Making Existing Dynamic Touchscreens Accessible. In Proceedings of the 32nd Annual ACM Symposium on User Interface Software and Technology (UIST '19). Association for Computing Machinery, New York, NY, USA, 371–385. https://doi.org/10.1145/3332165.3347873.

Posters and Demos

[P.4] Momona Yamagami, Claire L. Mitchell, Alexandra A Portnova-Fahreeva, **Junhan Kong**, Jacob O. Wobbrock. (2024). Personalized gesture classification for encouraging non-sedentary behavior during technology use in people with motor disabilities. Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC '24 Poster). July 15-19, 2024, Orlando, Florida. Piscataway, New Jersey: IEEE Engineering in Medicine and Biology Society.

[P.3] **Junhan Kong**, Tianyuan Cai, Zoya Bylinskii. Improving Mobile Reading Experiences while Walking Through Automatic Adaptations and Prompted Customization. In Adjunct Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology (UIST '23 Poster). Association for Computing Machinery, New York, NY, USA, Article 19, 1–3. https://doi.org/10.1145/3586182.3616666.

[P.2] **Junhan Kong**, Mingyuan Zhong, James Fogarty, Jacob O. Wobbrock. 2021. New Metrics for Understanding Touch by People with and without Limited Fine Motor Function. In The 23rd International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '21 Poster). Association for Computing Machinery, New York, NY, USA, Article 80, 1–4. https://doi.org/10.1145/3441852.3476559.

[P.1] **Junhan Kong**, Anhong Guo, Jeffrey P. Bigham. 2019. Supporting Older Adults in Using Complex User Interfaces with Augmented Reality. In The 21st International ACM SIGACCESS Conference on Computers

and Accessibility (ASSETS '19 Demo). Association for Computing Machinery, New York, NY, USA, 661–663. https://doi.org/10.1145/3308561.3354593.

PATENTS

[IP.1] Anhong Guo, **Junhan Kong**, Michael Rivera, Frank F. Xu, Jeffrey P. Bigham. StateLens: A Reverse Engineering Solution for Making Existing Dynamic Touchscreens Accessible. U.S. Provisional Patent Application 19/207, filed June 6, 2019.

WORK EXPERIENCE

Research Scientist Intern, Meta Reality Labs   Jun 2024 - Sep 2024
Investigated quantitative characterization of pointing performance and user experience in virtual reality. Led to paper submission to CHI.

Research Scientist Intern, Adobe   Jun 2023 - Sep 2023
Investigated the impact of walking on mobile reading experiences, developed a system that provides automatic and customized reading adaptations to walking using smartphone built-in sensors. Winner of the Intern Project Expo (Research Org). Led to UIST poster [P.3] and paper submission to CHI.

Software Engineering Intern, Google   May 2018 - Aug 2018
Software Engineering Intern, Jet.com   Jun 2017 - Aug 2017

TEACHING

Instructor
UW INFO 498 Special Topics in Informatics "Accessibility" (Course Rating: 4.8/5.0)   Spring 2024
Teaching Assistant
UW HCID 520 User Interface Software and Technology   Winter 2023
UW INFO 380 Information Systems Analysis and Design   Autumn 2020, 2022, 2023
UW IMT 575 Data Science III: Scaling, Applications and Ethics   Spring 2022
UW IMT 596 & 597 MSIM Capstone   Winter 2021, Spring 2021
CMU 05-391 Designing Human-Centered Software   Fall 2017 - Fall 2019
CMU 15-122 Principles of Imperative Computation   Fall 2016 - Fall 2019

SERVICE

Reviewer
Special Recognitions: UIST (23', 24'), CHI (22')
Conference Reviewer:
UIST (23', 24'), CHI (22', 24', 25'), ASSETS (23' Posters and Demos), SUI (24'), DIS (24')
Organizing Committee
UW DUB Doctoral Colloquium 2023 Coordinator
ASSETS 2022 Web and Graphics Design Co-Chair
Undergraduate Activities
CMU Undergraduate HCI Student Advisory Committee   Sep 2018 - May 2019
CMU Undergraduate Orientation Counselor   Aug 2018

SKILLS

Programming Languages: Python, Java, Swift, C, C++, Objective C, C#, F#, JavaScript, R, SQL
Tools & Platforms: ARKit, GPT, TensorFlow, OpenCV, PyTorch, AWS, Unity, CUDA, OpenMP, Hadoop, Spark
Hardware Prototyping & Fabrication: Processing, Arduino, PCB design, 3D printing