

URAN OH

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Robotics Institute
School of Computer Science
Carnegie Mellon University

RESEARCH STATEMENT

The goal of my research in Human-Computer Interaction (HCI) is to enrich user experience by improving information access to both digital and physical environments for users with various needs especially for people with visual impairments. I am particularly interested in mobile and wearable assistive technologies, and interaction designs including gestural user interfaces.

EDUCATION

Ph. D. in Computer Science (Aug. 2010 – Dec. 2016)

University of Maryland, College Park, USA

Dissertation: Accessible On-Body Interaction for People With Visual Impairments

Advisor: Dr. Leah Findlater

B.S. in Computer Science and Engineering (Mar. 2006 – Feb. 2010)

Ewha Woman's University, Seoul, South Korea

Advisor: Dr. Hyokyung Bahn

RESEARCH AND WORK EXPERIENCE

Postdoc Research Fellow (Mar. 2017 – current)

Carnegie Mellon University, USA

Advisors: Dr. Chieko Asakawa and Dr. Kris Kitani

Graduate Research Assistant (May 2012 – Dec. 2016)

University of Maryland, College Park, USA

Advisor: Dr. Leah Findlater

Research Intern (May 2015 – Oct. 2015)

Mobile Interactive Computing Group, Google Research, Mountain View, USA

Advisors: Dr. Hao Lü and Dr. Yang Li

Graduate Research Assistant (May 2012 – Jul. 2012)

University of Maryland, College Park, USA

Advisor: Dr. Don Perlis

PUBLICATIONS

Journal Articles

1. Lee Stearns, **Uran Oh**, Leah Findlater, Jon E. Froehlich. (2017) TouchCam: Realtime Recognition of Location-Specific On-Body Gestures to Support Users With Visual Impairments. *ACM Journal on Interactive, Mobile, Wearable and Ubiquitous Technology (IMWUT)*, To Appear.
2. Lee Stearns, Ruofei Du, **Uran Oh**, Catherine Jou, Leah Findlater, David A. Ross, Jon E. Froehlich. (2016) Evaluating Haptic and Auditory Directional Guidance to Assist Blind People in Reading

Printed Text Using Finger-Mounted Cameras. *ACM Transactions on Accessible Computing (TACCESS)*, Vol. 9, No. 1, Article 1.

3. **Uran Oh** and Leah Findlater. (2015) A Performance Comparison of On-Hand versus On-Phone Nonvisual Input by Blind and Sighted Users. *ACM Transactions on Accessible Computing (TACCESS)*, Vol. 7, No. 4, Article 14.
4. **Uran Oh**, Stacy Branham, Leah Findlater and Shaun Kane. (2015) Audio-Based Feedback Techniques for Teaching Touchscreen Gestures. *ACM Transactions on Accessible Computing (TACCESS)*, Vol. 7, No. 3, Article 9.
5. Joyce J. Whang, **Uran Oh**, Aeyoung Kim and Sang-Ho Lee. (2011) Privacy Preserving Protocols for Finding the Similarity between Two DNA Sequences with a Blind Third Party. *Journal of Convergence Information Technology (JCIT)*, Vol 6:10, pages 33-40.
6. **Uran Oh**, Soojung Lim, and Hyokyung Bahn. (2010) Channel Reordering and Prefetching Schemes for Efficient IPTV Channel Navigation. *IEEE Transactions on Consumer Electronics*, Vol. 56, Issue 2.
7. Eunji Lee, Jiyoung Whang, **Uran Oh**, Kern Koh, and Hyokyung Bahn. (2009) Popular Channel Concentration Schemes for Efficient Channel Navigation in Internet Protocol Televisions. *IEEE Transactions on Consumer Electronics*, Vol. 55, Issue 4.

Conference Papers

1. **Uran Oh**, Lee Stearns, Alisha Pradhan, Jon. E. Froehlich, and Leah Findlater. (2017) Investigating Microinteractions for People with Visual Impairments and the Potential Role of On-Body Interaction. *Proceedings of ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*. 22-31 (Acceptance: 22%)
2. Daisuke Sato, **Uran Oh**, Kakuya Naito, Hironobu Takagi, Kris Kitani, and Chieko Asakawa. (2017) NavCog3: An Evaluation of a Smartphone-Based Blind Indoor Navigation Assistant with Semantic Features in a Large-Scale Environment. *Proceedings of ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*. 270-279. (Acceptance: 22%)
3. Lee Stearns, **Uran Oh**, Bridge J. Cheng, Leah Findlater, David A. Ross, Rama Chellappa, Jon E. Froehlich. (2016) Localization of Skin Features on the Hand and Wrist From Small Image Patches. *Proceedings of International Conference of Pattern Recognition (ICPR)*.
4. **Uran Oh** and Leah Findlater. (2014) Design of and Subjective Response to On-body Input for People with Visual Impairments. *Proceedings of ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*. 115-122. (Acceptance: 26%)
5. Stearns, Lee, Ruofei Du, **Uran Oh**, Yumeng Wang, Leah Findlater, Rama Chellappa, and Jon E. Froehlich. (2014) The Design and Preliminary Evaluation of a Finger-Mounted Camera and Feedback System to Enable Reading of Printed Text for the Blind. *Proceedings of Assistive Computer Vision and Robotics (ACVR)*.
6. Hanlu Ye, Meethu Malu, **Uran Oh** and Leah Findlater. (2014) Current and Future Mobile and Wearable Device Use by People With Visual Impairments. *Proceedings of ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)*, 3123-3132. (Acceptance: 23%)
7. **Uran Oh**, Shaun Kane and Leah Findlater. (2013) Follow That Sound: Using Sonification and Corrective Verbal Feedback to Teach Touchscreen Gestures. *Proceedings of ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*. 13:1-13:8. (Acceptance: 29%)

8. **Uran Oh** and Leah Findlater. (2013) The Challenges and Potential of End-user Gesture Customization. *Proceedings of ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)*, 1129-1138. (Acceptance: 29%)

Workshop Paper

1. Lee Stearns, Ruofei Du, **Uran Oh**, Yumeng Wang, Leah Findlater, Rama Chellappa, and Jon E. Froehlich. (2014) The Design and Preliminary Evaluation of a Finger-Mounted Camera and Feedback System to Enable Reading of Printed Text for the Blind. *Proceedings of European Conference on Computer Vision Workshop on Assistive Computer Vision and Robotics (ECCV/ACVR)*, 615–631

Posters

1. Leah Findlater, Lee Stearns, Ruofei Du, **Uran Oh**, David Ross, Rama Chellappa, and Jon E. Froehlich. (2015) Supporting Everyday Activities for Persons With Visual Impairments Through Computer Vision-Augmented Touch. *Proceedings of ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*. 383–384.
2. Preeti Bhargava, Michael T. Cox, Tim Oates, **Uran Oh**, Matthew Paisner, Don Perlis, Jared Shamwell. (2012) The Robot Baby and Massive Metacognition: Future Vision. *IEEE International Conference on Development and Learning and Epigenetic Robotics (ICDL/EpiRob)*.
3. Jared Shamwell, Tim Oates, Preeti Bhargava, Michael T. Cox, **Uran Oh**, Matthew Paisner, Don Perlis, (2012) The Robot Baby and Massive Metacognition: Early Steps via Growing Neural Gas. *IEEE International Conference on Development and Learning and Epigenetic Robotics (ICDL/EpiRob)*.

INVITED TALKS AND CONFERENCE PRESENTATIONS

[Accessible On-Body Interaction for People With Visual Impairments \(Nov. 7th, 2016\)](#)

Diversity in Computing Summit held by Maryland Center for Women in Computing
College Park, Maryland, USA

[Design of and Subjective Response to On-Body Input for People With Visual Impairments \(Oct. 21st, 2014\)](#)

ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)
Rochester, New York, USA

[Follow That Sound: Using Sonification and Corrective Verbal Feedback to Teach Touchscreen Gestures \(Oct. 23rd, 2013\)](#)

ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)
Bellevue, Washington, USA

[Challenges and Potential of End-User Gesture Customization \(May 22nd, 2013\)](#)

30th Annual Human-Computer Interaction Lab Symposium
College Park, Maryland, USA

[Challenges and Potential of End-User Gesture Customization \(Apr. 30th, 2013\)](#)

ACM SIGCHI Conference on Human Factors in Computing Systems (CHI)
Paris, France

GUEST LECTURES

[A Performance Comparison of On-Hand Versus On-Phone Nonvisual Input by Blind and Sighted Users \(Nov. 30th, 2016\)](#)

INST701 Introduction to Research Methods
University of Maryland, College Park, USA

[Touchscreen Accessibility for People With Visual Impairments \(Feb. 10th, 2016\)](#)

INST728Z Inclusive Technology Design
University of Maryland, College Park, USA

SELECTIVE MEDIA COVERAGE

[This New Tech Is Letting Blind People Read Without Braille \(Nov. 15th, 2016\)](#)

Jess Vilvestre, Futurism

[Tiny Fingertip Camera Helps Blind People Read Without Braille \(Nov. 9th, 2016\)](#)

Aviva Rutkin, New Scientist

[Fingertip Cameras Reads to the Blind \(Nov. 10th, 2014\)](#)

Stephanie Mlot, PC Magazine

AWARDS AND SCHOLARSHIP

[Selected for Rising Stars in EECS – An Academic Career Workshop for Women \(2017\)](#)

Stanford University

[Industry-Academic Cooperation Scholarship \(Apr. 2015 – May 2016\)](#)

LG Uplus Corporation

[HCIL Conference Travel Award \(2013\)](#)

Human-Computer Interaction Lab
University of Maryland, College Park

[Gannon Travel Award \(2013\)](#)

University of Maryland, College Park

[Dean's Fellowship \(2010 – 2011\)](#)

University of Maryland, College Park

TEACHING

[University of Maryland, College Park](#)

- CompSciConnect Summer School for 6th Girls (Summer 2012)
- CMSC131 Object-Oriented Programming I (Spring 2012)
- CMSC106 Introduction to C Programming (Fall 2011)
- CMSC216 Introduction to Computer Systems (Summer 2011)
- CMSC250 Discrete Structures (Spring 2011)
- CMSC102 Introduction to Information Technology (Fall 2010)

SERVICE

[Vice President of Korean Graduate Association \(2012 – 2015\)](#)

University of Maryland, College Park

Peer Reviewer (2014, 2015, 2017)

International Journal of Human Computer Studies (2017)

SIGCHI Conference of Human Factors in Computing Systems (2014, 2015, 2017)

SIGACCESS Conference on Computers and Accessibility (2015, 2017)

Student Volunteer (2013, 2014, 2016)

SIGCHI Conference of Human Factors in Computing Systems (2013, 2014)

Annual Human-Computer Interaction Lab Symposium (2013, 2014, 2016)