

## Curriculum Vitae

**Name:** Dr. Youngeun Song  
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### RESEARCH INTERESTS

- Human-computer interaction
- Design, develop, and evaluate interactive prototype
- Usability and security of behavioral biometrics-based authentication for mobile and wearables

### EDUCATION

- Mar. 2014 ~ Aug. 2022 Ulsan National Institute of Science and Technology Department of Ulsan,  
Biomedical Engineering Integrated Master and Ph.D. Course Korea  
Thesis: Touch Pressure Based Behavioral Biometric Authentication  
System for a Smartwatch  
Advisor: Ian Oakley  
Ph.D. Student  
GPA: 3.79 / 4.3
- Mar. 2010 ~ Feb. 2014 Ulsan National Institute of Science and Technology School of Ulsan,  
Design and Human Engineering Korea  
B.S. in Design and Human Engineering  
GPA: 3.67 / 4.3

### PUBLICATIONS (SCIE/SCI)

1. Song, Y., & Oakley, I. (2022). PushPIN: A pressure-based behavioral biometric authentication system for Smartwatches. *International Journal of Human-Computer Interaction*, 1–17. <https://doi.org/10.1080/10447318.2022.2049144>

### INTERNATIONAL CONFERENCES

1. Jun Ho Huh, Hyejin Shin, HongMin Kim, Eunyong Cheon, Youngeun Song, Choong-Hoon Lee, and Ian Oakley. 2023. WristAcoustic: Through-Wrist Acoustic Response Based Authentication for Smartwatches. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 6, 4, Article 167 (December 2022), 34 pages. <https://doi.org/10.1145/3569473> (Conference paper)
2. Song, Y., & Oakley, I. (2022). PushID: A Pressure Control Interaction-Based Behavioral Biometric Authentication System for Smartwatches. *International Conference on Human-Computer Interaction*, 255-267. [https://doi.org/10.1007/978-3-031-05563-8\\_17](https://doi.org/10.1007/978-3-031-05563-8_17) (Conference paper)

### DOMESTIC CONFERENCES

1. Song, Y., & Oakley, I. (2018). CordDial: Usability study about new enhanced TUI with elastic feedback for mobile platform. *Proceedings of HCI Korea 2018*, 28-31. (Conference paper)
2. Youngeun Song, Haebin Lee, Gwangyoung Lee, Jaehee Lee, Hwajung Hong. (2017). PUPPIT: Pre-Adoption Experience for Novice Pet Owners via Combination of Augmented Reality and Tangible User Interaction. *Proceedings of Ergonomics Society of Korea*, 485-485. (Poster)
3. Youngeun Song, Hyungmin Kang, Ian Oakley.(2016). CordDial : Cords and Dials for Tangible User Interaction on a Tablet Computer. *Proceedings of Ergonomics Society of Korea*, 413-413. (Poster)
4. Youngeun Song, Suraiya Jahan Liza, Ian Oakley.(2016). Typing on the Edge - Korean Text Entry on a Smartwatch Using a Side Mounted Input Surface. *Proceedings of HCI Korea 2016*, 223-225. (Poster)

### AWARDS AND CERTIFICATES

- Best presenter, The HCI Society of Korea, Korea (Jan. 2018)

- OPIc Intermediate High, Multicampus (Aug. 2022)

## PATENTS

1. Nam Hun Kim, Ian Oakley, Youngeun Song, Sang kwon Kang, Hye rim Kim, Youryang Lee, Ji hyun Lee, "Movie rate management system and method of movie rate management using the same", KR-Registration No. 1017465100000, <https://doi.org/10.8080/1020150173783?urlappend=en>

## RESEARCH EXPERIENCE

**Research Assistant**, Planning and Design of Smart Toy Integrated System, National Research Foundation of Korea (NRF), April 2014-Sep 2014 & Smart Toy Usability Assessment and User Experience Design, NRF, Jan 2015-April 2015

- Design and develop smart toy prototypes by using Arduino.
- Literature survey about edutainment toys for different age ranges of children.

**Research Assistant**, Sensing Interaction on Device Edges for Wearable Computing, NRF, Feb 2015-April 2016, Jan 2017-April 2017

- Design, develop, and evaluate a Korean text entry system for smartwatch by using capacitive multi-touch on an edge of wrist wearables.

**Research Assistant**, Development of Personal Identification Technology based on Biomedical Signals to Avoid Identity Theft, Korea Electronics Technology Institute (KETI), Jul 2015-Jun 2018

- Run user study to evaluate the usability of new biometric authentication system based on brain-computer interface and eye tracking technology.

**Research Assistant**, Research about touch surface based user touch interaction and human factors, Electronics and Telecommunications Research Institute (ETRI), Nov 2017-Mar 2018 & Next Generation Touch Input for Smart-Glasses, NRF, Jan 2019-Jun 2019

- Run user study about pressure-based interaction on a touch surface.
- Publish one journal paper and one conference paper about pressure-based behavioral biometrics authentication

**Research Assistant**, Novel Wrist Biometrics for Smartwatches, Samsung Electronics, Aug 2020-Apr 2021

- Run user study about novel wrist biometrics for smartwatches.
- Design questionnaires about usability and security of the novel biometrics.
- Publish one international conference paper as co-author

## SKILLS AND TECHNIQUES

**Research:** User study, Qualitative research, Quantitative research, Experimental design, Data analysis, UX design

**Programming language:** R, Python, Processing, Arduino, Swift, Java, PHP, MySQL

**Design:** Solidworks, Photoshop, Illustrator, iMovie, InDesign

## REFERENCE

Dr. Ian Oakley

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Relationship: Advisor professor