Hyunsung Cho

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RESEARCH INTERESTS

Ubiquitous computing, context-aware computing, human-computer interaction, computational modeling

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EDUCATION

Korea Advanced Institute of Science and Technology (KAIST)
Ph.D. student in Computer Science   *Mar. 2020 -*
Advisor: Sung-Ju Lee

Korea Advanced Institute of Science and Technology (KAIST)
M.S. in Computer Science   *Mar. 2018 - Feb. 2020*
Advisor: Sung-Ju Lee
Dissertation: Private Status Sharing and Sender-Controlled Notifications in Mobile Instant Messaging
Dissertation Committee: Sung-Ju Lee, Juho Kim, Youn-kyung Lim

Korea Advanced Institute of Science and Technology (KAIST)
B.S. in Computer Science (Software Advanced Major)   *Aug. 2013 - Feb. 2018*
Magna Cum Laude

PUBLICATIONS

Conference & Journal Papers

[c.3] I Share, You Care: Private Status Sharing and Sender-Controlled Notifications in Mobile Instant Messaging.
Hyunsung Cho, Jinyoung Oh, Juho Kim, and Sung-Ju Lee.
CSCW 2020: ACM Conference on Computer Supported Cooperative Work and Social Computing

[c.2] Knocker: Vibroacoustic-based Object Recognition with Smartphones.
Taesik Gong, **Hyunsung Cho**, Bowon Lee, and Sung-Ju Lee.
IMWUT (UbiComp) 2019: ACM Annual Conference on Interactive, Mobile, and Ubiquitous Technologies

[c.1] Intelligent Positive Computing with Mobile, Wearable, and IoT Devices: Literature Review and Research Directions.
Uichin Lee, Kyungsik Han, **Hyunsung Cho**, Kyong-Mee Chung, Hwajung Hong, Sung-Ju Lee, Youngtae Noh, Sooyoung Park, and John M. Caroll.
Ad Hoc Neworks Journal, Voulme 83, 2019

Posters, Demos, and Workshop Papers

[p.4] I Share, You Care: Private Status Sharing and Sender-Controlled Notifications in Mobile Instant Messaging.
Hyunsung Cho, Jinyoung Oh, Juho Kim, and Sung-Ju Lee.
CSCW 2020 Demos: ACM Conference on Computer Supported Cooperative Work and Social Computing

[p.3] Sender-Controlled Mobile Instant Message Notifications Using Activity Information.
Hyunsung Cho, Jinyoung Oh, Juho Kim, and Sung-Ju Lee.
MobiSys 2019 Demos: ACM International Conference on Mobile Systems, Applications and Services

[p.2] Real-Time Object Identification with a Smartphone Knock.
Taesik Gong, **Hyunsung Cho**, Bowon Lee, and Sung-Ju Lee.
MobiSys 2019 Videos: ACM International Conference on Mobile Systems, Applications and Services
Best Video Award

[p.1] Identifying Everyday Objects with a Smartphone Knock.
Taesik Gong, **Hyunsung Cho**, Bowon Lee, and Sung-Ju Lee.
CHI 2018 Extended Abstract: ACM Conference on Human Factors in Computing Systems

WORK EXPERIENCE

KAIST Networking and Mobile Systems Lab (NMSL), Daejeon, South Korea   *Mar. 2017 - Present*
Research Assistant
Advisor: Sung-Ju Lee. Research on context-aware interventions for positive behavior change:

- **Modeling Behaviors of Regretful Smartphone Use with App Feature Use Analysis**
  Led the design and implementation of an Android-based technology probe that tracks the usage of social media app features and samples in-situ level of regret after use. Designed and conducted a one-week field study and mixed-methods analysis.

- **Designing Context-Aware Micro-Interventions for Stress Management**   [c.1]
  Designed and implemented an intervention mechanism for stress management that suggests micro-tasks for stress relief in micro spare time detected through mobile sensing.

- **Private Status Sharing and Sender-Controlled Notifications in Mobile Instant Messaging**   [c.3., p.3, p.4]
  Led the design and implementation of private status sharing and sender-controlled notifications to function on commodity messaging apps. Designed and performed a two-week field study and mixed-methods analysis.

- **Vibroacoustic-based Object Recognition with Commodity Smartphones**   [c.2, p.1, p.2]
  Designed and implemented 21 applications of knock-based interaction that leverage surrounding objects as contextual information. Modified the system to enable on-device training and inference of the SVM model. Assisted the design of the object recognition method, evaluation design, and user study operation.

Kiswe Mobile Inc., New Providence, NJ, USA   *Jun. 2017 - Aug. 2017*
Web Frontend Developer
Developed a trivia widget for interactive mobile sports streaming service. The widget was included in the live service for the IAAF Diamond League event in collaboration with VRT Sporza. The service was covered in press. Developed tools to support video streamers such as a multi-view layout editor for multi-cam videos; an easy drag-and-drop thumbnail uploader; and a live streaming control interface.

KAIST Interaction Lab (KIXLAB), Daejeon, South Korea   *Dec. 2015 - Feb. 2017*
Research Intern
Advisers: Jihee Kim and Juho Kim. Research on analysis of presidential election promises in relation with government budget expenditure data through crowdsourcing.

ACADEMIC SERVICES

ACM CSCW Reviewer	*2020, 2021*
ACM CHI Late Breaking Work Reviewer	*2021*
ACM Computing Surveys Reviewer	*2020*
HCI@KAIST Twitter Account Manager	*2020*
ACM MobiSys Student Volunteer	*2019*

AWARDS & HONORS

NAVER Ph.D. Fellowship Award   *2020*
$5K Academic scholarship, awarded based on research performance

Best TA Award   *2019*
KAIST School of Computing

Google Women Techmakers Scholars   *2019*
$1K Academic scholarship, awarded based on academic performance, leadership, and impact on the community of women in tech

Best Video Award   *2019*
MobiSys 2019 [p.2]

Best Poster/Demo Award   *2018*
ACM SIGCHI Local Chapter [p.1]

Undergraduate Research Program
2016
$2K Research grant awarded by KAIST

2nd Place, The 3rd Korea SW Hackathon
2016
$3K Award by the Ministry of Science, ICT and Future Planning of Republic of Korea

National Science & Technology Scholarship
2014 - 2017
Merit-based scholarships

TEACHING EXPERIENCE

Teaching Assistant, KAIST
Fall 2016 - Fall 2017, Fall 2020
CS101 Introduction to Programming

Teaching Assistant, KAIST
Fall 2018, Spring 2020
CS341 Introduction to Computer Networks

Head Teaching Assistant, KAIST
Spring 2019
CS341 Introduction to Computer Networks

Invited Student Panel, KAIST
Spring 2019
CS492 Introduction to Research (invited by Juho Kim, Sung-Ju Lee, and Shin Yoo)

INVITED TALKS

Vibroacoustic-based Object Recognition with Smartphones
2019 IAT (Information Accessibility Technology) Conference
Nov. 22, 2019

EXTRACURRICULAR EXPERIENCE

MADCAMP (Mobile Application Development Camp)
Dec. 2016 - Feb. 2017
Intensive, focused development camp where I developed five different mobile applications in 4.5 weeks. Example apps are a humming-based multi-play music quiz game and a group alarm clock that ensures every member to wake up.

SPARCS (Developers Club), KAIST
Mar. 2014 - Dec. 2016
Head of Server Management Group & Web Developer
Managed over 10 physical and virtual server machines as the leader of the club's server management group. Developed a server monitoring tool using gRPC. Held seminars on the basics of server management for students. Topics include Linux, LDAP, mail server, file system, and security.

SELECTED PRESS

Electronics Weekly, Sensor fusion lets phone identify objects by simply knocking against them
Oct. 2019

Science Daily, Object identification and interaction with a smartphone knock
Oct. 2019

NEW ATLAS, Smartphone tech recognizes objects by being knocked against them
Oct. 2019

Nerdiest, This algorithm makes smartphones recognize objects just by Knocking them
Apr. 2018

ICT NEWS, New application allows you to identify an object by tapping it with a smartphone
Apr. 2018

Sporza, Sporza biedt interactieve primeur met Kiswe Mobile tijdens Diamond League Brussel
Aug. 2017