

Research Interests

Human Computer Interaction (HCI): Information Seeking, Group Decision-making, Visual Interaction
Information Visualization (InfoVis): Distance Cartogram, Spatial Visualization

Education

University of Washington

2012– 2018 (expected), USA

Ph.D. Candidate at Dept. of Human Centered Design & Engineering (HCDE)

Advisor: Dr. Cecilia Aragon (UW HCDE)

Dissertation Committee: Dr. Cecilia Aragon (UW HCDE), Dr. Sarah Battersby (Tableau Research), Dr. Jessica Hullman (UW iSchool), Dr. Mark Zachry (UW HCDE), and Dr. Jevin West (UW iSchool)

Yonsei University

2005–2007, Korea

MS of Computer Science

Advisor: Dr. In-Kwon Lee (CS)

Ajou University

1999–2005, Korea

BS of Digital Media

Dae-il Foreign Language High School

1995-1998, Korea

Dept. of English

Publications

Refereed Conference Proceedings and Journal Articles

- [16] **To Distort or Not to Distort: Distance Cartograms in the Wild**
Sungsoo (Ray) Hong, Minjoon Yoo, Bonnie Chinh, Amy Han, Sarah Battersby, & Juho Kim. 2018. In *Proceedings of the ACM conference on Human Factors in Computing Systems (CHI2018)*. (To appear)
- [15] **Collaborative Dynamic Queries: Supporting Distributed Small Group Decision-making**
Sungsoo (Ray) Hong, Minhyang (Mia) Suh, Nathalie Henry Riche, Jooyoung Lee, Juho Kim, & Mark Zachry. 2018. In *Proceedings of the ACM conference on Human Factors in Computing Systems (CHI2018)*. (To appear)
- [14] **Coco's Videos: An Empirical Investigation of Video-Player Design Feature and Children's Media Use**
Alexis Hiniker, Sharon Heung, Sungsoo (Ray) Hong, & Julie Kientz. 2018. In *Proceedings of the ACM conference on Human Factors in Computing Systems (CHI2018)*. (To appear)
- [13] **Toward the Operationalization of Visual Metaphor**
Alexis Hiniker, Sungsoo (Ray) Hong (co-lead authored), Yea-Seul Kim, Nan-chen Chen, Jevin West, & Cecilia Aragon. 2017. *Journal of the Association for Information Science and Technology* 68, 10: 2338 – 2349.
- [12] **Designing Interactive Distance Cartogram to Support Urban Travelers**
Sungsoo (Ray) Hong, Rafal Kocielnik, Sarah Battersby, Min-Joon Yoo, Juho Kim, & Cecilia Aragon. 2017. In *Proceedings of IEEE Pacific Visualization Symposium (PacificVis2017)*. 81-90. (29.3% accepted)
- [11] **SparQs: Visual Analytics for Sparking Creativity in Social Media Exploration**
Nan-Chen Chen, Michael Brooks, Rafal Kocielnik, Sungsoo (Ray) Hong, Jeff Smith, Sanny Lin, Zening Qu, & Cecilia Aragon. 2017. In Meiselwitz G. (eds) *Social Computing and Social Media. Applications and Analytics*. Lecture Notes in Computer Science, vol. 10283. Springer.
- [10] **Lariat: A Visual Analytics Tool for Social Media Researchers**
Nan-Chen Chen, Michael Brooks, Rafal Kocielnik, Sungsoo (Ray) Hong, Jeff Smith, Sanny Lin, Zening Qu, & Cecilia Aragon. 2017. In *Proceedings of Hawaii Intl. Conference on System Sciences (HICSS)*.

- [9] **MyTime: Designing and Evaluating an Intervention for Smartphone Non-Use**
Alexis Hiniker, **Sungsoo (Ray) Hong**, Kohno Tadayoshi, & Julie Kientz. 2016. In *Proceedings of the ACM conference on Human Factors in Computing Systems (CHI2016)*. 4746-4757. (23% accepted)
- [8] **Hidden symbols: How informal symbolism in digital interfaces disrupts usability for preschoolers**
Alexis Hiniker, Kieley Sobel, **Sungsoo (Ray) Hong**, Hyewon Suh, India Irish, & Julie Kientz. 2016. *International Journal of Human-Computer Studies* 90: 53-67.
- [7] **VIZMO Game Browser: Accessing Video Games by Visual Style and Mood**
Jin Ha Lee, **Sungsoo (Ray) Hong**, Hyerim Cho, & Yea-Seul Kim. In *Proceedings of the ACM conference on Human Factors in Computing Systems (CHI2015)*. 149-152. (18% accepted)
- [6] **Touchscreen Prompts for Preschoolers: Designing Developmentally Appropriate Techniques for Teaching Young Children to Perform Gestures**
Alexis Hiniker, Kieley Sobel, **Sungsoo (Ray) Hong**, Hyewon Suh, India Irish, & Julie Kientz. 2015. In *Proceedings of the ACM Conference on Interaction Design & Children (IDC2015)*. 109-118. (23% accepted)
- [5] **Designing Tools to Support Advanced Users in Social Media Interaction**
Hyunggu Jung, **Sungsoo (Ray) Hong**, Perry Maes, & Mark Zachry. 2015. In *Proceedings of the International Conference on ACM Design of Communication*.
- [4] **Traffigram: Distortion for Clarification via Isochronal Cartography**
Sungsoo (Ray) Hong, Yea-Seul Kim, Jong-Chul Yoon, & Cecilia Aragon. In *Proceedings of the ACM conference on Human Factors in Computing Systems (CHI2014)*. 908-916. (22.8% accepted)
- [3] **Collaborative Visual Analysis of Sentiment in Twitter Events**
Michael Brooks, John Robinson, Megan Tolکیدson, **Sungsoo (Ray) Hong**, & Cecilia Aragon. 2014. In *Proceedings of Cooperative Design, Visualization & Engineering*. 1-8.
- [2] **Point and Control: Control Multi-device with Single Remote Control**
Sungsoo (Ray) Hong & Juil Eom. 2009. In Jacko J.A. (eds) *Human-Computer Interaction. Ambient, Ubiquitous and Intelligent Interaction*. Lecture Notes in Computer Science, vol. 5612. Springer.
- [1] **Interactive System for Efficient Video Cartooning**
Sungsoo (Ray) Hong, Jong-Chul Yoon, In-Kwon Lee, & Siwoo Byun. Mirage 2007

Non-archival Publications

- [2] **Distortion for Clarification via Geotemporal Cartogram**
Sungsoo (Ray) Hong, Jong-Chul Yoon & Cecilia Aragon. Conference on Korea Computer Graphics Society 2013
- [1] **Intuitive User Interface for Inter-device Multimedia Sharing, Watching, and Controlling on N-Screen Environment**
Sungsoo (Ray) Hong, Mun Jo Kim, Chang Hwan Hwang, & Sang Hee Ban
Conference on Human Computer Interaction Korea (KHCI) 2012

U.S. Patents (Granted)

- [10] **Visual representation of Distance Cartograms**
Sungsoo (Ray) Hong, Cecilia Aragon, Min-Joon Yoo.
U.S. Patent US9,773,321 B2
- [9] **Methods and Systems for Providing Geotemporal Graphs**
Cecilia Aragon, **Sungsoo (Ray) Hong**, Benjamin Samples, & Jong-Chul Yoon.
U.S. Patent US20140324327A1
- [8] **Apparatus and content playback method thereof**
Sungsoo (Ray) Hong, Chang-Hwan Hwang, & Sahng-hee Bahn.
U.S. Patent US20130097512A1
- [7] **User terminal device and method for controlling a renderer thereof**
Sungsoo (Ray) Hong, Sahng-hee Bahn, Chang-Hwan Hwang, Jong-chan Park, Ju-yun Sung, & Keum-Koo Lee U.S.
Patent US20130097533A1

- [6] **Method and Apparatus for Communication Connection Service**
Sahnghee Bahn, **Sungsoo (Ray) Hong**, & Changhwan Hwang.
U.S. Patent US20130086644A1
- [5] **Methods and Apparatus for Registering a Device to Server**
Sahnghee Bahn, **Sungsoo (Ray) Hong**, & Changhwan Hwang.
U.S. Patent US20130086232A1
- [4] **Integrated operation method for social network service function and system supporting the same**
Sungsoo (Ray) Hong, Sahng Hee Bahn, & Chang-hwan Hwang.
U.S. Patent US20130073626A1
- [3] **Wireless Communication Method and Apparatus**
Sungsoo (Ray) Hong, Chang-Seog Ko, Pil-seung Yang, Chang-hwan Hwang.
U.S. Patent US20100216399A1
- [2] **Method of storing status information about content reproducing device, and method and apparatus for allowing content to be automatically reproduced using the status information**
Hyo-in Ahn, Chang-Seog Ko, & **Sungsoo (Ray) Hong**.
U.S. Patent US20100124407A1
- [1] **Universal remote controller and remote control method thereof**
Sungsoo Ray Hong, Chang-Seog Ko, & Hyo-in Ahn.
US Patent US20100013695A1 & US20130147612A1

Teaching

Instructor / Co-Instructor

UW DATA501 **Data Science Visualization Lab**, Instructor

UW HCDE 598 **Data Visualization and Exploratory Analytics Lab**, Instructor

UW HCDE 598 **Data Science for UX Designer (DS4UX)**, Co-Instructor (worked with Dr. Jonathan Morgan)

UW HCDE 530 **Computational Techniques for HCDE**, Co-Instructor (worked with Dr. David McDonald)

Teaching Assistant

UW INFX 547 **Social Data Mining and Analysis**, TA (worked with John Zimmerman & Avniel Dravid)

UW HCDE518 **User-Centered Design**, TA (worked with Jess Holbrook, Dr. Julie Kientz)

UW HCDE511 **Information Visualization**, TA (worked with Dr. Robin Emerson)

UW HCDE508 **Visual Media in HCDE**, TA (worked with Dr. Daniela Rosner)

UW HCDE517 **Usability Testing**, TA (worked with Andrew Davidson)

Work Experience

KAIST

Visiting Scholar (invited by Dr. Juho Kim @ KIXLAB)

Winter of 2017, Korea

Visiting Scholar (invited by Dr. Juho Kim @ KIXLAB)

Summer of 2017, Korea

University of Washington

Research Assistant: Distance Cartogram Project (PI: Dr. Cecilia Aragon)

Summer of 2014, 2015, 2016, USA

Research Assistant: Eigen Factor Project (PI: Dr. Jevin West)

Summer of 2013, USA

Samsung Electronics (Digital Media & Communication Research Center)

UX Designer / Researcher (D4)

2009 – 2012, Korea

UI Engineer (E3)

2007 – 2009, Korea

Yonsei University

Research Assistant, Non-Photorealistic Rendering Project (PI: Dr. In-Kwon Lee)

2005 – 2007, Korea

Awards & Scholarships

NSF I-Corp grant awardee	2017
GSFEI UW Graduate Student Travel fund recipient	2017
UW Commercialization GAP fund awardee	2014
HCDE Ph.D. scholarship recipient	2012
Korean Institute of Information Science and Engineering Special prize awardee	2010
Ajou Digital Media scholarship recipient (The scholarship covered full tuitions for 4 academic years)	1999 - 2003

Skills

Front-end Development and Design

JavaScript (JS) developer: proficient in a variety of JS libraries including Vue.js, D3, MapZen, OSM, jQuery, and more

Graphic designer: proficient in Adobe Photoshop and Illustrator

User Interface designer: proficient in LO-FI and HI-FI prototype development

Interaction and Animation designer: proficient in JavaScript animation, Adobe After Effect, and Premier

Back-end Development

Back-end developer: proficient in PHP, and MySQL, and node.js

UX Research & System Evaluation

UX researcher: proficient in conducting a variety of HCI methodologies including survey, focus-group interview, quantitative methods (e.g., controlled study), qualitative methods (e.g., interview), and field deployment

Other Coding Skills

Programmer who is proficient in Python, Java, C, OpenGL, and OpenCV

Talks and Services

Talks

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| [11] | Invited talk: Leveraging Human Visual Capabilities to Support Spatial Information Seeking and Decision
University of Washington, CoMotion | 10/30/2017 |
| [10] | Invited talk: Designing User Interfaces for Supporting Spatial Visual Information Seeking Process
Seoul National University, Department of Communication, HCI+D lab | 07/18/2017 |
| [9] | Invited talk: Designing User Interfaces for Supporting Spatial Visual Information Seeking Process
Seoul National University, GIS/LBS research center | 07/07/2017 |
| [8] | Invited talk: Designing Visual Interfaces and Interactions to Support Spatial Decision-Making
Hanyang University, Department of Computer Science, Scalable Computing System lab | 04/28/2017 |
| [7] | Invited talk: Designing Visual Interfaces and Interactions to Support Spatial Decision-Making
Ajou University, Department of Digital Media | 04/27/2017 |
| [6] | Invited talk: Designing Distance Cartogram and Collaborative Dynamic-Queries
Seoul National University, Department of Computer Science, HCI Lab | 04/25/2017 |
| [5] | Invited talk: Designing Distance Cartogram and Collaborative Dynamic-Queries
Korea Research Institute for Human Settlements | 04/24/2017 |
| [4] | Conference presentation: Designing Interactive Distance Cartogram to Support Urban Travelers
IEEE PacificVis 2017 | 04/19/2017 |
| [3] | Conference presentation: VIZMO Game Browser: Accessing Video Games by Visual Style and Mood
ACM SIGCHI 2017 | 04/20/2015 |

- [2] Invited talk: Information and Visualization: How visual aids comprehension of information
Korean IT Experts Society in Seattle 11/20/2014
- [1] Conference presentation: Traffigram: Distortion for Clarification via Isochronal Cartography
ACM SIGCHI 2014 28/04/2014

Services

Reviewer of ACM SIGCHI (2015 – 2017), ACM UIST (2015 – 2017), ACM IUI (2015), IEEE InfoVis (2014 – 2015, 2017), IEEE VAST (2014), and IEEE PacificVis (2017)
Student Volunteer of ACM SIGCHI (2015, 2017), and ACM SIGDOC (2012)

Extracurricular

Loves

Trail hiking, long distance running, computer games, paintings, graphic designs, programming
random things, Japanese animations, and beer.