

## Research Interests

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

## Education

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### 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

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### Refereed Conference Proceedings and Journal Articles

- [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. *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.  
*IEEE PacificVis2017* (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. *HCI International 2017*
- [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. *Hawaii Intl. Conference on System Sciences 2017*
- [9] **MyTime: Designing and Evaluating an Intervention for Smartphone Non-Use**  
Alexis Hiniker, **Sungsoo (Ray) Hong**, Kohno Tadayoshi, & Julie Kientz.  
*ACM SIGCHI 2016* (23.4% accepted)
- [8] **Hidden symbols: How informal symbolism in digital interfaces disrupts usability for preschoolers**  
Alexis Hiniker, Kielely Sobel, **Sungsoo (Ray) Hong**, Hyewon Suh, India Irish, & Julie Kientz.  
*International Journal of Human-Computer Studies* 90 (2016): 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.  
ACM SIGCHI 2015. (18% accepted)
- [6] **Touchscreen Prompts for Preschoolers: Designing Developmentally Appropriate Techniques for Teaching Young Children to Perform Gestures**  
Alexis Hiniker, Kielely Sobel, **Sungsoo (Ray) Hong**, Hyewon Suh, India Irish, & Julie Kientz.  
ACM Interaction Design & Children (IDC) 2015 (23% accepted)
- [5] **Designing Tools to Support Advanced Users in Social Media Interaction**  
Hyunggu Jung, **Sungsoo (Ray) Hong**, Perry Maes, & Mark Zachry.  
ACM SIG Design of Communication (SIGDOC) 2015
- [4] **Traffigram: Distortion for Clarification via Isochronal Cartography**  
**Sungsoo (Ray) Hong**, Yea-Seul Kim, Jong-Chul Yoon, & Cecilia Aragon.  
ACM SIGCHI 2014 (22.8% accepted)
- [3] **Collaborative Visual Analysis of Sentiment in Twitter Events**  
Michael Brooks, John Robinson, Megan Tolkidson, **Sungsoo (Ray) Hong**, & Cecilia Aragon.  
Cooperative Design, Visualization & Engineering (CDVE) 2014
- [2] **Point and Control: Control Multi-device with Single Remote Control**  
**Sungsoo (Ray) Hong** & Juil Eom. HCI International 2009
- [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

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### 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

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### KAIST

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

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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

## Skills

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### 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

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### Talks

- [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**

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### **Loves**

I love **trail hiking**, long distance **running**, computer **games**, **paintings**, **graphic designs**, **programming** random things, Japanese **animations**, and **beer**.