Hyemi Song

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Summary

Hyemi Song is a researcher and a designer interested in topics related to "data, communication, and humans' in complex systems. Her academic research areas include information visualization, human-computer interaction, and visual analytics.

Education

University of Maryland, College Park, USA, 2022-Present
Ph.D. Computer Science

University of Maryland, College Park, USA, 2022-2024 (Expected)
Master of Science, Computer Science

Rhode Island School of Design, Providence, USA
Master of Fine Arts, Digital + Media

University of the Arts London, London, UK
Foundation, Visual Communication

The Catholic University of Korea, Seoul, Korea
Bachelor of Science, Molecular Biology

Teaching Experience

University of Maryland College Park, 2022 Spring/Summer, 2023 Spring/Summer/Fall
Position: Teaching Assistant
Class: Introduction to Data Science, Web Application Development with JavaScript

Rhode Island School of Design, 2016 Winter
Position: Instructor
Class: Measuring the Universe (2016 RISD Winter Session)

Research Experience

Natural Language and Data Visualization Interplay in AR/VR, 2023 - Present
My research explores the complex interplay between natural language and data visualizations in AR/VR environments for users with diverse background and expertise levels. This work is situated within the broader context of Generative AI-powered immersive analytics with multimodal interaction.

Sensemaking with Heterogeneous data, 2023
Role: First Author
This study explores the potential influence of integrating text and visualization in a data analysis tool on users' data sensemaking process and outcomes. With the increasing accessibility of various datasets online, there is a challenge in extracting insights from multiple datasets due to their differing formats and types. To formulate a concise research question, we conducted self-experiments using toy datasets on gun violence to compare human and GPT-4 analyses and a formative study. (semi-structured interview)

Towards understanding in-context learning with contrastive demonstrations and saliency maps, 2023, Link
Role: Co-Author

We investigate the role of various demonstration components in the in-context learning (ICL) performance of large language models (LLMs). Specifically, we explore the impacts of ground-truth labels, input distribution, and complementary explanations, particularly when these are altered or perturbed.

Beyond Replication: How Timing and Schematic Similarity Shape Example-Based Data Visualization Design, 2023
Role: Co-Author
This research investigates the influence of examples on visualization design, identifying key factors in idea transfer and effectiveness and guiding future example-based design studies.

Intents, Techniques, and Components: a Unified Analysis of Interaction Authoring Tasks in Data Visualization, 2022 - Present
Role: First Author
This theory paper introduces a framework to compose interactions for data visualization. There is growing interest in interaction authoring tools in data visualization; however, the literature focuses on communication and data analysis rather than how to compose interactions. We analyzed 45 real-world examples to consolidate existing models and create a new model. Currently, a new study is in progress.

Professional Experience

University of Maryland College Park, USA, 2022 - Present
Position: Research Assistant (Working with Dr. Amitabh Varshney)
Varshney Lab, Human-Computer Interaction Lab

Microsoft, Redmond, USA, 2019 - 2022
Position: Senior Designer
Specialized in Data Visualization, Designed for Machine Learning and AI products.
Designed Error Analysis Dashboard, Azure Machine Learning Studio, and more.

Datadog Inc, New York, USA, 2017 - 2019
Position: Product Designer
Specialized in Data Visualization. Designed/developed Service Map, Host, and Infra map.

Massachusetts Institute of Technology, MIT Senseable City Lab, Cambridge, USA, 2016 - 2017
Position: Research Fellow, Data Visualization Specialist
Developed and designed an award-winning project, Cityways, Driving DNA,
Pisa Pool, Urban Exposure, and more.

eyeballNYC, New York, USA, 2015
Position: Design Intern
Designed a Logo for Sylvia Day who is a US best-selling author, as well as working on 5+ other projects.

NAVER Corporation, Seoul, Korea, 2011 - 2014
Position: UX/UI designer
Designed mobile/web UX/UI for a Social Network Service called 'me2day' (Korea's equivalent of Twitter) and designed the Portal Service, 'NAVER' (the largest search engine in Korea).

VINYL Interactive, Seoul, Korea, 2010 - 2011
Position: UX/UI designer
Designed and developed the web/mobile Service Strategies & Proposals, interactive installations, and digital media promotions for 10+ clients; SAMSUNG, Korea Telecommunication, and more. KT Olleh Square won a prize from the iF design awards.

2015 Brothers, Seoul, Korea, 2009 - 2010
Position: Art Director
Designed and directed advertising projects for 20+ clients, including SKTelecom, SAMSUNG, and Korea Technology.

PXD, Seoul, Korea, 2008 - 2009
Position: Interaction Designer
Developed and designed mobile/web UI/UX services for clients including SKTelecom and SAMSUNG.

Samsung Electronics, Seoul, Korea
Position: Design intern
Researched web 2.0 and worked on a Flexible Display Project proposal.

Cheil World Wide, Seoul, Korea
Position: Design intern
Participated in a NY Time Square Outdoor Advertisement Proposal to make
a creative movie.

Kiz Entertainment, Seoul, Korea
Position: Clay Animator
Participated in Clay animations for an advertisement, and TV Series with 5+ Clients,
including Korean Broadcasting System and Dino land.

Publication & Book Chapter

Intents, Techniques, and Components: a Unified Analysis of Interaction Authoring Tasks in Data Visualization, 2023
Unpublished
Walking in a place, Walkestra, 2016
Hyemi Song
MFA Thesis book, Rhode Island School of Design
RAW DATA, USA, 2014
Book Chapter, (Project: The temperature of my mind / Visualizing works) / Link1 Link2
+ Book Author: Steven Heller, Rick Landers

Press

Monthly Design (Oldest Korean Design Magazine), Seoul, Korea, 2018
Feature Interview, Title - Data Visualization Designer, Hyemi Song / Link
Data Vis Today, USA, 2018
Feature Interview, Podcast (Episode 13) / Link
IdN, Hong Kong, 2018
Featured article (Project: CityWays), IdN is an international Design Magazine / Link
The Guardian, USA, 2016
News Article (Project: Urban Exposure), Data Visualization at MIT Senseable City Lab / Link
Visual Loop, Brazil, 2012
Featured article, Title - Finding stories of data visualization from twitter / Link
Information Aesthetics, USA, 2011
Featured article, Title - Visualizing Works: Hyemi Song's Innovative Portfolio / Link
Visualising Data, USA, 2011
Featured article, Title - Visualizing Works: Hyemi Song's Innovative Portfolio
Sadi Vision, Korea, 2011
Featured article (Project: Visualizing Works)
IF Online Gallery, USA, 2010
IF Online Gallery (Project: KT Olleh Square)
2009 Seoul Design Olympiad, Korea, 2009
Annual publication for winners
Adobe Design Achievement Award Online Gallery, USA, 2008
ADAA Online Gallery (Project: The temperature of my mind)

Invited talk (Selected)

Ohio State University Ohio, USA, 2022
Lecture: Data and Human Communication
GyeongGi Cultural Foundation, Seoul, Korea, 2021
Lecture: Data as a communication medium: art, design, and human
San Jose State University San Jose, USA, 2021
Lecture: Data and Human Communication
Workshop: Measuring the temperature of my mind

Jury, Peer Review, Advising service

DIS- Peer reviewer, Full papers, 2024 - Present
IEEEVIS - Peer reviewer, Full papers, 2023 - Present
PacificVis - Juror, 2022 - Present
IEEEVIS Arts Program - Program Committee / Link, 2018 - Present
A' Design Award & Competition, Italy - Jury Member, 2018 - 2022
Brown University, Computer Science Department, USA - Portfolio Reviewer, 2019 - 2021
Apexart, USA - Jury Member, 2017

Grant, Fellowship & Scholarship

IEEEVIS 2023, USA - Inclusive and Diversity Scholarship, 2023
University of Maryland College Park, USA - Dean's Fellowship/Assistantship, 2022-Present
Massachusetts Institute of Technology, USA - Fellowship, 2016 - 2017
Rhode Island School of Design, USA - Assistantship/Fellowship, 2014 - 2016
Samsung Art & Design Institute, Korea - Scholarship, 2007

Award

IEEE Arts Program, Melbourne, Australia - Accepted for exhibition, 2023 (Project: Solar System)
A'Design Award and Competition, Italy - Winner (Gold), 2018-2019
Information is Beautiful Awards, USA - Long List, 2018
World Changing Ideas Awards (by Fast Company), USA - Finalist, 2018
IEEE Arts Program, Berlin, Germany - Accepted for exhibition
A'Design Award and Competition, Italy - Winner (Iron), 2016-2017
53rd American Graphic Design Awards, GDUSA, USA -Winner (Student), 2016
Spark International Design Awards, USA - Finalist, 2016
Adobe Design Achievement Awards, USA - Semifinalist, 2008, 2015, 2016
Adobe Design Achievement Awards, USA - Honorable Mention 2007
IF Design Award, USA - Winner, 2010
Good Design Award, Japan - Winner, 2010
Seoul Design Olympiad 2009, Korea - Winner (Honorable Mention)
SADI Graduation Award, Korea - Experimental Portfolio Winner
11th Environmental Management Corporation Award, Korea - Winner

Coursework (UMD)

Explainable Natural Language Processing Link
Natural Language Processing Link
User Experience Research Methods Link
Information Visualization Link

Advances in XR [Link](#)
Info-Centric Design System [Link](#)
Interactive Technologies in Human-Computer Interaction
Visual Analytics
Bioinformatics (AU)
Embodied Media Design (AU)

Exhibition

IEEE Arts Program, Melbourne, Australia, 2023 (Project: Solar System)
Design Korea Festival 2020, Design Beyond Data, @Coex, Seoul, Korea, (Declined) 2020
IEEE Arts Program, Berlin, Germany, 2018
A'design Award Winner exhibition, @Mood, Italy, 2017
Shenzhen Design Week, @Shenzhen Convention Center, China, 2017
RISD Nature Lab anniversary exhibition, @Waterman Gallery, USA, 2017
Internet Festival, @Waterman Gallery, Pisa , Italy, 2016
RISD Graduate Exhibition, @Providence Convention Center, USA
Dark Matter, @RISD Sol Koffler Gallery, USA
Image Landscapes, @RISD Gelman Gallery, USA
Annual Student Artists' Book Exhibition, @RISD Fleet Library, USA
2009 Seoul Design Olympiad, @Jamsil Main Stadium, Korea
Sharing Experience 2009, @Zero one center Gallery, Korea
Onepiece Magazine Ceremony Party 500, Korea
Reviewing Hanul Exhibition, @Space Hiut, Korea
GUANGZHOU Design Korea Exhibition, Guangzhou, China
2nd D.I.P. Exhibition, @SADI Space Gallery, Korea
21st D.I.P. Exhibition, @SADI Space Gallery, Korea
SADI Graduation Exhibition, @SADI Space Gallery, Korea
Hanul Exhibition, @Shinhan Gallery, Korea
Chelsea College of Arts Graduation Exhibition, @Hugon Road Gallery, UK

Skillsets

Front, Backend, Data Visualization, Data Science, AR/VR
Javascript, React, Redux, Express.js, MongoDB, Python, HTML, CSS, C#
D3js, Vegalit, Matplotlib, Three.js, PyTorch, Unity

Design & Research
UX/UI design, Interaction Design, UX Research, Academic Research