

# Hyemi Song

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## Summary

Hyemi Song is a researcher and a designer interested in Information Visualization, Human-Centered Interaction, Human-Centered AI, and Immersive Analytics. Currently, she studies the complex interplay between Natural Language and Data Visualization in XR within generative AI-powered immersive analytics under the supervision of Dr. Amitabh Varshney. **Immigrant Status:** US Permanent Resident (EB-1A Extraordinary Ability, self-petitioned, 2021)

## Educational background

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

**University of Maryland**, College Park, USA, 2022-2024  
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 Design

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

## Research experience

**University of Maryland College Park**, USA, 2022 - Present  
**Position:** Research Assistant (Advisor: Dr. Amitabh Varshney)  
**Labs:** UMD Graphics and Visual Informatics Laboratory, Human-Computer Interaction Lab  
Currently working on Natural Language and Data Visualization Interplay in XR within generative AI-powered immersive analytics.

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

**NAVER Corporation**, Seoul, Korea, 2011 - 2014  
**Position:** UX Researcher  
Designed UX/UI for Social Media, 'me2day' (the equivalent of Twitter), and a search engine, 'NAVER' (the largest search engine in Korea).

## 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)

## Industry experience

**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.

**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.

**Kiz Entertainment**, Seoul, Korea, 2004

Position: Clay Animator

Participated in Clay animations for an advertisement, and TV Series with 5+ Clients, including Korean Broadcasting System and Dino land.

**eyeballNYC**, New York, USA, 2015,

**Samsung Electronics**, Seoul, Korea, 2007,

**Cheil World Wide**, Seoul, Korea, 2006

Position: Design Intern

## Research projects

### Natural Language and Data Visualization Interplay in Immersive Environments

Currently leading **two first-authored full papers** (2022-Present, 2023-Present) regarding interactions in Immersive Visualization and Generative AI-Infused Immersive Analytics.

## Publications

[4] **Hyemi Song**, Sai Gopinath, Zhicheng Liu, Intents, Techniques, and Components: a Unified Analysis of Interaction Authoring Tasks in Data Visualization, **Preprint 2024**, [Link](#)

[3] Hannah K. Bako, Xinyi Liu, Grace Ko, **Hyemi Song**, Leilani Battle, Zhicheng Liu, Unveiling How Examples Shape Data Visualization Design Outcomes, **IEEE VIS 2024**, [Link](#)

[2] Zongxia Li, Paiheng Xu, Fuxiao Liu, **Hyemi Song**, Towards understanding in-context learning with contrastive demonstrations and saliency maps, **Preprint 2023**, [Link](#)

[1] **Hyemi Song**, Walking in a Place, Walkestra, Rhode Island School of Design, **MFA Thesis 2016**, [Link](#)

## Books & Book chapters

[2] **Hyemi Song**, Solar System, Annual Student Artists' Book Juried Contest, Rhode Island School of Design, 2015

[1] Steven Heller, Rick Landers, Raw Data, (Published Works: The temperature of my mind, Visualizing works), 2014

## Grants, Fellowships & Scholarships

**ACM DIS**, USA - Awarded one-year ACM Professional Membership for paper review contribution, 2024

**IEEEVIS**, 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

## Review service

**ACM CHI**- Reviewer, 2024 - Present, (Full papers, Case Studies: 2025)  
**PacificVis**- Reviewer, 2024 - Present, (Full papers, TVCG Journal: 2025)  
**ACM Designing Interactive Systems**- Reviewer, 2024 - Present, (Full papers: 2024)  
**IEEEVIS** - Reviewer, 2023 - Present, (Full papers: 2023, Short papers: 2024)  
**PacificVis** - Juror, 2022 - 2023  
**IEEEVIS Arts Program** - Program Committee, 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

## Mentoring service

**Saumya Verma** - Master, UMD, iSchool  
 User Research Methods, 2024  
**John Robert Cole** - Master, UMD, CS  
 Peer Mentorship UMD, 2024

## Invited talks, Lectures, Workshops (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

## Awards

**ACM Designing Interactive Systems**, USA - Awarded for Best Paper Review Contribution, 2024  
**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  
**Annual Student Artists' Book Juried Contest**, USA - Accepted for exhibition and publication at RISD Fleet Library, 2015  
**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), 2009  
**SADI Graduation Award**, Korea - Experimental Portfolio Winner, 2008  
**11th Environmental Management Corporation Award**, Korea - Winner, 2006

## Media appearance

**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)

## Exhibitions

**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

## Permanent collections

**Walking in a Place**, Walkestra, Rhode Island School of Design, MFA Thesis, 2016

**Solar System** (Artbook), RISD Fleet Library, Rhode Island School of Design, 2015

## 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 (Audit)  
Embodied Media Design (Audit)  
Uncertainty Communication for Decision-Making (Audit)  
Human Factors in Security and Privacy (Audit)

## **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**

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