

Jinha Lee

Spatial

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I am an inventor, designer, and human computer interface (HCI) researcher creating future experience in the context of media applications, tangible interface, and augmented reality. My work was published in top tier academic conferences, featured extensively in media, awarded, patented, and released on the market in consumer products including one of the most successful kickstarter projects in design category.

Professional Experience

Spatial

2017 - Present

Co-founder, Chief Product Officer

Spatial is a venture-backed Augmented Reality startup software company. We are building the foundational apps for AR as the next computing platform. Spatial is funded by some of the best firms in Silicon Valley including the seed investors in Uber, AirBnB and Zynga.

Samsung Electronics, Visual Display, Interaction Group

2015 – 2017

Principal Engineer, Group Leader

Directing a team of developers and designers creating new experience, interaction models, strategies, and services for multiple products through iterative prototyping. Led the creation of MediaSquare (showcased at CES) - a playful and novel way to experience media in room-scale, multi-user environments. Recently led the joint effort on Dreem, an open-source prototyping and authoring tool for the room-scale visual computing environment unveiled at Samsung Developer Conference.

Samsung Electronics, Visual Display, Interactive Visualization Lab

2014 – 2015

Senior Engineer, Lab Leader

Designed and patented key interaction behaviours for 2015, 2016 Samsung TV. Led the UX and UI Concept Design and prototyping of 2015 Samsung TV. Established Iterative prototyping processes for UI Design and Development team.

Samsung Electronics, Visual Display

2012 – 2014

Engineer

Conducted research and design of fluid and scalable content browsing experience

including award-winning STRIPE project. Concept prototyping of new screen based experience and new input devices.

Microsoft Applied Sciences Group

Jun-Sep, 2011

Research Intern

Designed and developed SpaceTop, a computer that lets you reach inside the screen with your hands and interact with the surface and 3D space. SpaceTop was recognized as one of the first attempts to situate AR in the desktop environment, published to CHI conference, and invited to present at the TED stage.

MIT Media Lab, Tangible Media Group

2009 – 2012

Research Assistant

Multiple research projects and inventions including ZeroN, a physical pixel that levitates and moves freely about, allowing users to physically manipulate data in three-dimensional space. Presented at CHI conference and exhibited at MIT Museum. Created the first prototype of Bradley Timepiece, a haptic wristwatch for everyone including the visually impaired.

Sony Corporation, Computer Science Laboratories (CSL), Japan

Aug-Oct, 2008

Research Intern

Developed a mobile AR application that recognizes buildings in the street based on the aggregation of their 2D images with a planar object detection algorithm. Advisor: Jun Rekimoto

Education

Master of Sciences in Media Arts and Sciences

2009 – 2011

MIT Media Lab, Tangible Media Group

Master Thesis: Mid-Air tangible interaction enabled by computer controlled magnetic levitation. Advisor: Hiroshi Ishii

(on hold) Ph.D. Media Arts and Sciences.

2011 – 2012

MIT Media Lab, Tangible Media Group

Put on hold after the first year to serve alternative Korean military service at Samsung Electronics

B.E. in Electronic Engineering
The University of Tokyo

2005 – 2009

Bachelor Thesis project: Bloxels - Glowing Blocks as Volumetric Pixels, demonstrated at SIGGRAPH Emerging technologies Exhibition.

Awards and Honors

World Economic Forum's Young Global Leader of 2015

2015

World Economic Forum named me one of 200 young global leaders of 2015.

MIT Technology Review 35 Innovators under 35 (TR35)

2014

I was named as one of 35 innovators under 35 who will change the world.

Fast Company's 32 Greatest Living Designers List

2014

Fast Company magazine selected me as one of 32 greatest living designers along with Elon Musk, Jonathan Ive, and Frank Gehry.

TED Fellowship

2013

TED selected me as a fellow innovator of 2013 and invited to speak at TED 2013.

Forbes 30 under 30 Asia

2016

I was named on Forbes Magazine's 30 under 30 innovators in consumer tech category.

IF Design Award, Professional Concept

2016

STRIFE - Fluid and Zoomable TV UI for Navigating Large Content Landscape

IF Design Award

2015

SpaceTop - Holographic Computer Interface

IF Design Award

2014

Levitated Interface

RED Dot Award

2016

Bradley Timepiece

London Design Museum's Design of the year

2014

Bradley Timepiece

Da Vinci Award

2014

Bradley Timepiece

NetExplo 100 Significant Innovation of 2010

2010

Netexplo Global Observatory on Digital Society featured Beyond project as one of the

100 innovations of the year.

CES Innovation Award Samsung Smart TV that I designed has got innovation award from CES, software / app category	2015
Samsung Scholarship Scholarship of \$350K for seven years for Master and Ph.D. program.	2009~
Best Paper Nomination, CHI 2013 Sublimate: state-changing virtual and physical rendering to augment interaction with shape displays	2013
CLIO Awards Bradley Timepiece	2016
German Design Award Bradley Timepiece	2016
IF Design Award Bradley Timepiece	2016
Core 77 Design Award Bradley Timepiece	2016

Research Publications

SpaceTop: Integrating 2D and Spatial 3D Interaction in See-through Desktop Environment

Jinha Lee, Alex Olwal, Hiroshi Ishii, and Cati Boulanger, Proceedings of ACM CHI 2013, 189-192

ZeroN: mid-air tangible interaction enabled by computer controlled magnetic levitation

Jinha Lee, Rehmi Post, and Hiroshi Ishii, Proceeding of ACM UIST 11, 327-336.

Sublimate: state-changing virtual and physical rendering to augment interaction with shape displays

Daniel Leithinger, Sean Follmer, Alex Olwal, Samuel Luescher, Akimitsu Hogge, Jinha Lee, Hiroshi Ishii. Proceedings of ACM CHI 2013, 1441-1450.

Elastic Cursor and Elastic Edge: Applying Simulated Resistance to Interface Elements for Seamless Edge-scroll.

Jinha Lee and Seungcheon Baek. Adjunct Proceedings of ACM UIST 2015, 63-64.

Beyond: collapsible tools and gestures for computational design

Jinha Lee, Hiroshi Ishii, Extended Abstracts of ACM CHI'10, 3931-3936

Bloxels: glowing blocks as volumetric pixels

Jinha Lee, Yasuaki Kakehi, Takeshi Naemura, ACM SIGGRAPH 2009 Emerging Technologies.

Direct, spatial, and dexterous interaction with see-through 3D desktop

Jinha Lee, Cati Boulanger, ACM SIGGRAPH 2012 Posters, 69

Beyond: collapsible input device for direct 3D manipulation beyond the screen

Jinha Lee, Surat Teerapittayanon, Hiroshi Ishii, Adjunct proceedings of ACM UIST 2010.

rainbottles: gathering raindrops of data from the cloud

Jinha Lee, Greg Vargas, Mason Tang, Hiroshi Ishii, Extended Abstracts of ACM CHI'12, 1901-1906.

STRIPE: Fluid and Zoomable Lean-back Interface for Navigating Content Landscape on a Large Screen

Jinha Lee, Ben Cerveny, Josh Nimoy, Gabriel Dunne, Seran Jeon, Varun Nigam, Proceedings of the 2015 Interactive Tabletops and Surfaces (ITS), 313-318.

Keynotes and Invited Lectures

2013 Speaker at **TED** - "Reach into the computer and grab a pixel", 2013, Long Beach, CA, USA

2014 Speaker at **MIT Technology Review's EmTECH Conference**, 2014, Cambridge, MA, USA.

2015 Keynote at **Interactive Tabletops and Surfaces (ITS)**, "From Surface to Space", Madeira, Portugal

2016 Speaker at **Samsung Developer Conference**, "The Future of Prototyping.."SF, CA., USA

2015 Speaker at **Brand Week Istanbul**, "Weaving Digital Information into Physical Space" Istanbul

2013 Speaker at **World Knowledge Forum**, "Weaving Digital Information into Physical Space", Seoul

2013 Speaker at **Convergence Conference**, "Convergence, not Combination", Seoul, Korea

2016 Lecture at **KAIST Augmented Reality Seminar**, Daejeon, Korea

2014 Lecture at **KAIST Industrial Design Seminar**, Daejeon, Korea

2013 Lecture at **Samsung Art and Design Institute (SADI)**, Seoul, Korea

2013 Lecture at **Ewha Women's University**, Seoul, Korea

2013 Lecture at **Seoul National University**, Seoul, Korea

2013 Lecture at **Samsung Visual Display**, "What Drives Invention", Seoul, Korea

2012 Keynote at **Samsung Medici Festival** "What Drives Invention", Yongin, Korea.

2012 Speaker at **Future of Touch and Interactivity Conference**

2010 Lecture at **Samsung Scholarship Academic Camp**, "The Future of Things, Bits, and Us", CA

Selected Exhibitions and Demos

2017 "Radical Atoms - The Alchemists of Our Time" **Ars Electronica**, Linz, Austria

2016 “ZeroN” **Ars Electronica**, Linz, Austria
2016 “MediaSquare” **ACM CHI Conference**, San Jose, CA, USA
2016 “MediaSquare” **CES Samsung First Look Event**, USA
2012 “SpaceTop” **Microsoft Tech Forum**, Seattle, WA, USA
2012 “ZeroN” **MIT Museum**, Cambridge, MA, USA
2011 “Ultimate Display” **MIT Media Lab Defy Gravity Exhibition**, Cambridge, MA, USA
2010 “Bloxels” **Annual Japan Media Arts Festival**, Tokyo, Japan
2009 “Bloxels” **National Museum of Emerging Science and Innovation, Exhibition at Convex, Tokyo**
2009 “Tangible Games” **Seoul Design Olympiad, Showcase Exhibition**

Selected Patents

US Patent 20140098085 “**Transparent Display**”, Jinha Lee, Cati Boulanger, Steven Bathiche
US patent 20120206419 “**Collapsible Input Device**”, Jinha Lee, Hiroshi Ishii,
Korea P20130051555, “**Effective method to select the object with voice UI and gesture control.**”,
Jae-Yeop Kim, Jean Christophe Naour, Jinha Lee,
+8 more applications pending

Invited Reviews

Reviewer for ACM CHI 2012, 2013, 2015,
Reviewer for ACM UIST 2012
Reviewer for ACM UbiComp 2012
Reviewer for ACM IEEE 2014

Selected Press and Media

HIGHLIGHTS

MIT Technology Review - [Innovators 35 Jinha Lee](#)
BBC - [Reach Inside your Computer](#)
BBC - [SpaceTop Revealed](#)
WIRED - [Amazing 3D Desktop was born at Microsoft](#)
TED Blog - [“Further Reading on the shringing boundary between humans and computers”](#)
FastCodesign - [MIT Creates Amazing UI From Levitating Orbs](#)
The Creators's Project - [User Preference Q/A with Jinha Lee](#)
FastCompany - [MIT Media Lab Star Reveals His First Project With Samsung](#)

MediaCat - [Brand Week Istanbul sundu: Jinha Lee](#)

MediaCat - [Samsung has handed over the interaction, design, technology responsibility to a 28 year old.](#)

SpaceTop

BBC - [SpaceTop Revealed](#)

WIRED - [Amazing 3D Desktop was born at Microsoft](#)

Business Insider - [You Have To See The Futuristic 3D 'SpaceTop' Computer](#)

The Verge - [SpaceTop 3D interface lets you reach inside your computer screen](#)

LA Times - [TED 2013: Four TED Fellow videos that will blow your mind](#)

Cnet - [Microsoft's 3D computer offers a world for your hands](#)

BGR - [See-through 3D computer with gesture controls gives us a glimpse of the future \[video\]](#)

Geekosystem - [See-Through 3D Desktop Turns Your Monitor Into a Futuristic Cyberspace Box](#)

IGN - [Microsoft Shows Off Futuristic Transparent 3D Desktop - Applied Sciences Group teases us with the future of personal computing.](#)

Wired UK - [Microsoft demos Kinect-powered transparent 3D desktop](#)

The Verge - [Microsoft's transparent 3D desktop puts a virtual computing environment at your fingertips](#)

Mashable - [Microsoft Demonstrates Mind-Blowing 3D Desktop \[VIDEO\]](#)

Engadget - [Microsoft TechForum unveils three research projects \(video\)](#)

ZeroN

FastCodesign: [MIT Creates Amazing UI From Levitating Orbs](#)

GIZMODO: [Magnetically Levitating Balls Could Be the Future of Computer Interfaces](#)

Engadget: [ZeroN slips surly bonds, re-runs your 3D gestures in mid-air](#)

MIT Video : [ZeroN](#)

MIT Media Lab Labcast: [ZeroN](#)

WIRED - [Show Time: ZeroN from MIT Media Lab](#)

Designboom - [MIT media lab: zeroN](#)

Blaze - [your eyes aren't fooling you- this ball is levitating.](#)

The Verge - [ZeroN magnetic levitation system can playback movements in space.](#)

Educatioedearth.net - [ZeroN - MIT's Revolutionary Computer Interface](#)

Popsoci: [MIT's Latest User Interface Employs Gravity-Defying, Levitating Metal Orbs](#)

Gizmag: [ZeroN system holds a ball wherever you place it, in mid-air](#)

ALT1040 - [ZeroN, el interfaz del futuro del MIT Media Lab](#)

International Business Times - [MIT Researchers Develop ZeroN: Magnetic Levitating Device That Defies Gravity, Imitates Movements In Space](#)

Spiegel Online: [Mensch-Maschine-Schnittstelle Interagieren über schwebende Kugel](#)

Index.hu (The largest hungarian news portal) - [Antigravitációs kezelőfelületet mutatott be az MIT](#)

Beyond

Designboom: [jinha lee: beyond](#)

Gizmodo - [Collapsible Input Pen Lets You Draw 3D Images On a 2D Surface](#)

InAvete - [MIT team researches a way to go beyond the screen](#)

Fast Comapny: [Almost Genius: An AR Interface for Drawing in 3-D](#)

Solidmack - [Collapsible 3D Device Reaches Through 2D Surface, Strangles Geometry](#)

Samsung

FastCompany - [MIT Media Lab Star Reveals His First Project With Samsung](#)

Engadget - [Samsung MediaSquare makes watching TV a social experience](#)

Samsung NewsRoom - [Dreem-ing of Helping Developers Create a More Connected World](#)

Eone

Cnet - ["The Bradley is "beautifully designed"](#)

Gizmodo - ["Stylish watch that lets blind people feel time"](#)

National Braille Press - ["One fashionable timepiece for all"](#)

New York Times - [Touch Time, for the Blind and Everyone Else](#)

Boston Globe - [Fashionable watch for the blind gets Kickstarter boost after traditional funders balk](#)

National Braille Press - ["One fashionable timepiece for all"](#)

TechSpot - [The Bradley is the stylish watch that lets you feel time](#)

Mashable - [Innovative Tactile Watch Helps You 'Feel What Time it Is'>](#)