

NJ Namju Lee

MDes; Harvard, MArch; UCB, B.S; SNUST, Research Fellow; MIT Architecture design, Computation, Visualization specialist

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[Linkedin](#)

[Github](#)

[Medium](#)

www.NJSTUDIO.co.kr

www.njslab.com/NJSLabCore

[YoutubeChannel / Eng](#)

[YoutubeChannel / Kor](#)

[Workshop Playlist / Eng](#)

[Design & Coding Playlist](#)

SKILL

Code: C, C++(WebAssembly), **C#** for Standalone, OpenGL, Unity3D, GLSL(Shader), and plugins for Rhino3D, **JAVA** for Processing, **Python**(Tensorflow, numpy, pandas, sklearn and so on) for Maya and Rhino3D, Rhino3D Script, 3ds **maxscript**, HTML, CSS, **Javascript**(JQuery, D3, THREE, NodeJS, tfjs, **Typescript**, **WebGL**, **OpenGL**)

2D, 3D: Illustrator, **Photoshop**, AutoCAD, **3ds Max**, Maya, SketchUp, **Rhino3D**, **Grasshopper**, Particle systems, Simulation engines, and various plug-Ins

Renderer: **Vray**, Mental ray, Brazil render, final render, Maxwell render, Hyper Short, Key Short, and so on

VR, Motion: **Unity**, **After Effect**, Cry engine, Stingray, Premiere, Combustion, Boujou, Quest3D, Turn Tool, and so on

DEMO REEL

[Stand-alone Development](#)

[Computational Design](#)

[Data Driven Design](#)

[3D Visualization](#)

[Architectural Design Project \(Data Driven and parametric\)](#)

[Digital Mockup](#)

SELECTED PROJECT REEL

[Volumetric Representations and Machine Learning](#)

[Agent-based Simulation at Sue Bierman Park](#)

[Parkerator Phase2, Optimization](#)

[Column Distribution & Thickness, agent-based Optimization](#)

[Small Island, VR implementation](#)

[Built Environment Assessment for the Housing Value Prediction](#)

[GIS and data visualization about homelessness in SF](#)

[Third Place Mobility, MIT Media Lab](#)

[Korea Traditional House , \[VisualImageSeriesWork\]](#)

[Architecture Compiler, Version 0.1.5, Development](#)

[Geometry and Graph Utility, Development](#)

[Dynamic Utility for Optimization, Development](#)

[Landscape Utility, Development](#)

EDUCATION

2015 Sep- 2017 May **Harvard University**, Cambridge, MA, USA
Advanced Studies Program, **Master in Design Studies(MDes)**, Graduate School of Design
3 Distinctions and **3 High Passes**, out of 14 classes
Digital Design Prize, class of 2017

2015 Sep- 2017 May **Massachusetts Institute of Technology Cambridge**, MA, USA
Cross Registration for independent research and thesis in **Design and Computation Group**,
Department of Architecture, Cambridge, MA, USA

2014 Sep- 2015 May **University of California, Berkeley**, CA, USA
Master of Architecture(M.Arch), Department. College of Environmental Design, GPA 3.8
Thesis, Data-Driven Design, Office on street / Street in the office

1999 Mar - 2006 Aug **Seoul National University of Science and Technology**, Seoul, South Korea
Bachelor of Science in Engineering(BS), Department. Architectural Design Course Including 2-year sabbatical to complete mandatory military service, 2002-2004

PROFESSION & RESEARCH PROJECT

2017 Sep-Present **Software Development Enginner, Product Enginner, and Researcher & Developer ESRI**, CA, USA

Role: development of real-time interactive platform and interface for an urban data and GIS visualization product **real-time graphic lib** for a product in ESRI (Environmental Systems Research Institute, GIS Mapping Software, AI, Spatial Data Analytics & Location Platform)
Products(including Research): *Annotation Tool, Drawing Tool 2D and 3D, Smart Drawing, Drawing Block, 2D& 3DVisualization tool, Mapticon(Data Driven representation), Mapfilter, SmartCommander, NTerrain Utility, NImage Utility, NVR, NData App, NSketch App, GIS Constraint Drawing package, Geometry Analysis package, Network Analysis package, Spatial data Analysis package. Real time graphics frameworks, and API (using HTML Canvas and SVG, ThreeJS, Pure WebGL1,2)*

2016 Aug- Aug **Application engineer**(Intern), **Flux Factor**(flux.io), SF, CA, USA
Role: computational design (c#, javascript)

2016 Jan - 2017 May **Research Assistant**, Harvard Graduate School of Design, MA, USA
Prof. Martin Bechthold, Material Processes and Systems (MaPS) Group,
Prof. Panagiotis Michalatos, TA, Introduction to Computational Design(6338) and Digital Structures and Material Distribution(6425), RA, Emmersive Structural Simulation

2016 Jan - May **Research Assistant**, Massachusetts Institute of Technology, MA, USA
Prof. Kent Larson, Changing Places ,MIT Media Lab

2014 Sep- 2015 May **Graduate Student Researcher**, UC Berkeley, CA, USA
Prof. Kyle Steinfeld, College of Environmental Design

2014 May- Present **Researcher**, **Deconstructing the DMZ for the Imaginary** by Dongsei Kim

2012 Mar- 2014 Apr **Research Fellow**, **MIT SENSEable City Lab**, Department of Urban Studies Planning, Massachusetts Institute of Technology, Cambridge, MA, USA
Prof. Carlo Ratti, **'SELF-DRIVING CAR PROJECT'**, **'CITY EYE SANTANDER'**, **'PARCUPINE'**
Role : 3D and Data Visualization specialist

2012 Aug- **Research assistant**, thesis **'SYNTHETIC TUTOR'**, PhD Juhong Park, Design and Computation, School of Architecture, MIT, Cambridge, MA, USA

2011 Sept- Dec **Senior design researcher**, **UrbanAID Research Lab**, Faculty of Design, Architecture and Building, University of Technology, Sydney, Australia
Prof. Tom Baker, UTS Digital Media Pavilion, Dr, Hank Haeusler, Polymedia Pixel, Media Architecture
Role : 3D and Data Visualization specialist

2007 May- 2010 Aug **Senior researcher**, **DK Architectural Design Lab**, School of architecture, Sejong University, Seoul, South Korea
Role : 3D and Data Visualization specialist

2004 Dec- present **Principal**, **'NJ DESIGN STUDIO'**, visualization and computational design studio (www.njstudio.co.kr), Seoul, South Korea,
Role : director

COURSE

2016- Spring, Data Science, CS 109, Harvard SEAS

2016- Spring, Independent Study, Media Lab MIT

2015- Spring, Visualization, CS 171, Harvard SEAS

2015- Spring, Digital Structures and Material Distribution, Harvard GSD

2015- Fall, Mechatronic Optics, Harvard GSD

2015- Fall, Introduction to Computational Design, Harvard GSD

2015- Spring, Design Studio, UC Berkeley

2015- Fall, mapping, UC Berkeley

2014- Fall, Computer Science 9H- Python for Programmers UC Berkeley

PROFESSIONAL EXPERIENCE: SELECTED DESIGN PROJECT

- 2015 Apr- **Street in office & office on street-** SF, CA, USA
Project at UC, Berkeley, Prof. Kyle Steinfeld
- 2014 Sep- **Helsinki guggenheim museum competition** - Finland
Collaboration : Taekyung Kim, Patricia Correa Velasquez, Daekwon Park, Hnsol Kang, Ale Romo
- 2013 May- **Flat Lot, Architectural competition**- MI 48502, USA
Collaboration with Daekwon Park, Jaegeun Lim, Dongsei Kim
- 2013 Feb- **Public art, Architectural competition**- The Radcliffe Institute for Advanced Study at Harvard University, Cambridge, MA, USA Collaboration with Aurgho Jyoti, Matan Mayer, Daekwon Park
- 2012 Dec- **Baragan's dream, Architectural competition** with Prof. Takehiko Nagakura, MIT, Cambridge, MA, USA
Role: design and visualization
- 2012 Sep- **Daegu Gosan Public Library**, Architectural competition, Daegu , South Korea Collaboration with meta-territory_studio
- 2012 July - **Badel Block Redevelopment, Architectural competition**, Ether Ship, Architect Sung-Goo Yang, Zagreb, Croatia
Role: design and visualization
- 2011 Aug- **A sculpture at Seoul City Hall, for Moon, Kyung Won**, one of Korea's major artists, Seoul, South Korea
Role: Technical director
- 2010 Sep - **Atlantic Memorial Space Competition** with Prof. Dong-Hyun Kim at DK Studio, Seoul, South Korea
Role: Researcher for design and presentation
- 2009 Dec- **AquaScraper (Reverse Evolution) for eVolo Skyscraper Competition 2010**, New York, NY 10034, USA
Role: Independent architectural design work
- 2009 Sep- **Bruce Lee Museum Idea Competition**, Hong Kong
Role: Independent architectural design work
- 2007 Jun- **Dongdaemon Housing Competition**, with Prof. Dong-Hyun Kim at DK Studio, Seoul, South Korea
Role: Researcher for design and visualization
- 2006 Sep- **JuGong Residence Competition**, NJ Studio, Seoul, South Korea
Role: Architectural design work
- 2005 May- **Nan Jing district in China urban redevelopment project**, A joint venture between Seoul Technology University and Dong Nam University in China
Role: Design researcher for planning and simulation

BOOK & TUTORIAL & ARTICLE & AWARDS EXPERIENCE

- 2018 A book chapter example with Ellie, Mario, Nate, **Building Performance Simulation for Design and Operation**, Prof. Christoph Reinhart, Carlos, MIT, MA
- 2017 May **Digital Design Prize, class of 2017, Harvard Graduate School of Design**
- 2016 May **publication, Beach, exhibition, 140P, Platform 10, Harvard GSD**
- 2014 Sep **Award, \$10K, STUDIO ONE**, University of California, Berkeley, CA, USA
- 2013 Aug **Tutorial, Lee, Namju: 'Tooling in Design Computation'**, Seoul, South Korea
Content: Tooling in 3d modelling, material, lighting, rendering and Effects, 230 pp.
- 2012 Oct **Article, Lee, Namju: 'Digital Pavilion'**, Sydney, in: Haeusler, M.; Tomitsch, M.; Tscherteu, G.:Media Facades - A global survey, Avedition, Ludwigsburg, Germany 2012.
- 2011 Dec **Article, Lee, Namju: 'AquaScraper', 'eVolo Limited Edition Book'**, eVolo magazine publication, New York, 10034, USA
Content: AquaScraper (Reverse Evolution), 562 ~ 565 pages
- 2010 Jan **Tutorial, Lee, Namju: 'Digital Design Studio I, II', three books**, Sejong University Publication, Seoul, South Korea
Content: Architectural design using rhino3d, 3ds max, Photoshop, After Effects, Indesign, 189 pp.

PROFESSIONAL EXPERIENCE: SELECTED VISUALIZATION PROJECT

- Role: Director for visualization including animation
- 2018 June - **Animation & visualization for Hsinta Ecological Power Plant, Yang Sung Goo, Ethership**, Taiwan,
Merit Award, Bronze Award at Taipei International Design Awards
- 2016 Sep - **Architectural animation for Nodeul Dream Island, Yang Sung Goo, Ethership**, South Korea
Distinction Award. Taipei International Design Awards
- 2016 Jan - **Architectural animation for HANGER BARN: FIGMENT NYC 2016 CITY OF DREAM PAVILION**, design by folio, NEW YORK CITY, NY
First prize
- 2015 Jan - **Architectural animation for GRB convention center comption, Houston**, with Prof. Ju-Hong Park, USA
- 2012 Apr - **Architectural animation for Potential applications of SMPS**, Thesis by Daekwon Park, Harvard University GSD, Cambridge, MA, USA
- 2011 Dec- **Architectural animation for Master plan of University of Sydney** and Holme Building designed by the Monument Company, Sydney
- 2011 Oct- **Architectural animation for construction simulation**, Mi-Rae Gawan at Samyuk University, HYUNDAI Engineering & Construction, Seoul
- 2011 Aug- **Architectural animation for the Building of Kepco Plant Sevice & Engineering**, Korea Electric Power Corporation, South Korea
- 2009 May- **Invisible Dream (short film work)**, JoungA Park Ph.D, DongGuk University, Seoul, South Korea
Role: Environment-background director for virtual city
- 2009 May- **Architectural animation for Seoul Performing Arts Center Competition**, SPACE GROUP, Seoul, South Korea.
- 2009 Aug - **Data Visualization & Visual Imagination Series**, NJ Studio, Seoul, South Korea
Role: Director of motion graphic works based on parametric algorithms
- 2008 May- **2008 AUTODESK Launching Day, opening animation work**, NJ Studio, Seoul, South Korea
- 2007 Oct- **Architectural animation for Campus Renovation**, Ulsan National Institute of Science and Technology, Korea
- 2007 Aug- **Architectural animation for Songdo New City, design by Kohn Pedersen Fox Associates**, Incheon, South Korea
Role: Director of animation and presentation
- 2006 Jun- **Architectural animation for King's Cross 400 project** with M3 Architects, London, United Kingdom
Role: Visualization expert
- 2006 Feb- **Architectural animation for PRUGIO Apartment**, DAEWOO Engineering & Construction, South Korea
- 2006 Jan- **Sam-Song urban planning project**, Research institute for City & Humanities, Go-Hyang, South Korea
Role: Design researcher for planning and presentation
- 2005 May- **Commercial Visualization (Animation, Simulation)** for Sky HDTV, HYUNDAI Engineering & Construction etc.
Role: Director at NJ Studio, South Korea

- 2010 July **Article, Lee, Namju: 'Korea Traditional House [Architectural Collage Exhibition]**', Magazine 'Architecture Culture', December 2010
Architecture Culture Publication, Seoul, South Korea
- 2009 Dec **Book, Lee, Namju: 'SIMULATION & VISUALIZATION OF ARCHITECTURE'**
Digitalbooks, Seoul, South Korea, 2009
Content: From basic concepts of animation to professional visualization using 3d programs, 512 pp.
- 2006 Oct **Article, Lee, Namju: 'Architectural animation for presentation'**, Magazine '3D Artisan', August 2006, Artisan Publication, Seoul, South Korea
- 2005 May **Article, Lee, Namju: 'Architectural Animation and Simulation', 'D.A.A.C.II** (Design of Architecture-Aided Computation), Seoul, South Korea
Written By Prof, Jung Chul Oh, Kookmin University Publication, 2 chapters
- 2005 May **First Prize, Polygon Culture Centre**, Independent architectural design, DA2005 National Architecture Competition, NJ Studio, Seoul, South Korea
- 2004 Aug **Second Prize Winner**, Independent animation work 'CG Land Competition' Visual Work, NJ studio, Seoul, South Korea
- 2000 May **Second Prize Winner**, A Break dancer, Dancer's Summit
- 2000 Aug- 2012 Jan DMC(Dance Mania Crew), **professional**, Seoul, Korea

LECTURE & SEMINAR & CONFERENCE EXPERIENCE

2020 Aug - instructor, Urban Network Analysis, Social Algorithms 7.0
<https://www.social-algorithms.com/sa-archives/sa-7-0>

2020 June - instructor, Computational Design (Data and Visualization)
at DigitalFUTURES World Conference 2020
Introduction to Computational Design for Geometry Visualization and Data Visualization for Digital Mapping on Web, KR / Eng

2019 Sept - Lecture, Data in Design, at KAIST and SNUST, Korea
Design Thinking, System, and Computational design with data

2019 Mar - Workshops in Creative AI and Feature Visualization class with Prof. Sey Min,
Sogang University, Korea
Machine Learning(AI) and Visualization in design

2018 Sep lecturers in Design Studio with Prof. Dongsei Kim, NYIT, NY, USA
Mapping and Computational design process

2018 Aug a workshop, Sense-map, with Prof. Kris Mun, newschool of architecture and
design, San Diego, USA

2018 Jan a lecturer in Critical Making: Computational Design and Material Protocol,
Department of Architecture and Architectural Engineering, Seoul National University,
South Korea

2017 Apr - Instructor, Introduction to Design Visualization,
JTerm, Harvard Graduate School of Design, MA, USA

Independent Activities Period (IAP), Massachusetts Institute of Technology(MIT), USA

2016 Sep - 2017 Apr - Instructor, 3D Visualization and Computation, 4th Semester
Arch Core Studio, workshop, Harvard Graduate School of Design, MA, USA

2016 Sep - Instructor, Post-Effect in AfterEffect, Digital Media Workshop,
Harvard Graduate School of Design, MA, USA

2016 Sep - Instructor, Architectural Visualization, Digital Media Workshop,
Harvard Graduate School of Design, MA, USA

2015 July- Lecturer, Data and design computation, "Data-driven design
methodology", Seoul National University of Science and technology, South Korea

2014 July- Lecturer, "Design and computation", Seoul National University of Science
and technology, and Hongik University(Master and PhD students), South Korea

2014 Mar- Conference 'ENGAGING DATA', SENSEable City Lab, Department of Urban
Studies Planning, MIT, Cambridge, MA, USA
Role: Research Fellow & 3D Visualization Specialist

2013 July- Lecturer, Tooling for Visualization, Workshop for Master and PhD students,
Hongik University, Seoul, South Korea
Content: Modelling and Representation including rendering

2013 Mar - Conference 'URBAN CODE', SENSEable City Lab, Department of Urban
Studies Planning, MIT, Cambridge, MA, USA
Role: Research Fellow & 3D Visualization Specialist

2009 Mar- 2010 Mar- Full-Time Lecturer, Architectural Digital Design I, II, three
semesters, Sejong University, Seoul, South Korea
Program: Sketchup, 3ds max, Rhino3d, Grasshopper, Photoshop After Effects, Indesign,
rendering, animation

2008 Mar- Lecturer, Design and 3D visualization process, Seoul Institute of the Arts
(SIA), Seoul, South Korea
Content: 3ds max, Photoshop After Effects, rendering, animation

2007 Apr- Lecturer, Workshops for visualization in urban design and architecture,
Ministry of Labor Korea, Seoul, Korea
Content: rendering and animation

2006 Mar - Tutor, Architectural design studio with Prof. Dong-Hyun Kim, Sejong
University, Seoul, South Korea
Role: (Parametric design using Rhino3d)

2006 Aug- Lecturer, Seminars in visualization for Cityscape and Urban Working for the
national company, 'Autodesk Korea', Seoul, South Korea

2006 July- Lecturer, Training sales department and potential buyers of the 'Linetech'
3ds max retailers, Seoul, South Korea

2006 May- Lecturer, Seminars in Seoul and Pusan Cites training work colleagues,
South Korea

2005 Dec- Tutor, Visualization for architectural design, HanBet University, Daejeon,
South Korea

2005 Sep- Tutor, Visualization for architectural design, Seoul National University of
Technology, Seoul, South Korea

2004 May- Lecturer, Simulation and visualization of Architectural, Urban and
Cityscape, AI Graphics School, Seoul, South Korea

SOFTWARE & PLUGINS DEVELOPMENT & EXHIBITION

2017 - Present NGraphics, real-time graphic lib for a product in ESRI
(Environmental Systems Research Institute, GIS Mapping Software, AI, Spatial
Data Analytics & Location Platform)
Products(including Research): Annotation Tool, Drawing Tool 2D and 3D,
Smart Drawing, Drawing Block, 2D& 3DVisualization tool, Mapticon(Data
Driven representation), Mapfilter, SmartCommander, NTerrain Utility, Nimage
Utility, NVR, NData App, NSketch App, GIS Constraint Drawing package,
Geometry Analysis package, Network Analysis package, Spatial data Analysis
package. Real time graphics frameworks, and API (using HTML Canvas and
SVG, ThreeJS, Pure WebGL1,2)

2017 Sep - present - Development, Expressmap for ESRI Storymaps

2018 Sep - present - Development, Numerical Land Utility
GIS and Mapping Utilities for web platform

2018 Sep - present - Development, Numerical Mapping Utility
GIS and Mapping Utilities for web platform and Rhino Grasshopper

2018 Sep - present - Development, Numerical Image Utility
Image and Utilities for Window web and Rhino Grasshopper

2017 Sep - present - Development, Numerical Urban Utility, MIT Media Lab
Urban Mobility Analysis Utilities for web platform and Rhino Grasshopper

2017 Aug, Politics of Space and its Shadows with Dongsei Kim, Seoul
Biennale of Architecture and Urbanism, Imminent Commons 2017

2016 Sep - present - Urban analytic model using sk-learn lib

2016 Sep - present - Development, Millipede for Unity, with Prof.
Panagiotis Michalatos, Structural simulation in VR environment

2016 Sep - present - Development, Eabbit for Grasshopper, with Jung Min
Han, Data processing and vis for Building Energy and Ventilation

2016 May - Architectural Exhibition, Hanger Barn Campaign Video,
designed by Folio, the winner of the sixth annual City of Dreams Pavilion
Competition

2015 Sep - present - Development, NJSOpenGL.dll, NJS.dll
Visualization and geometry library

2015 Sep - present - Development, SktechHand stand-alone for Window
platform

2015 Sep - present - Development, LandBox for design & for game,& for AR
stand-alone for Window platform

2014 Sep - present - Development, Numerical Environment Utility
Geometry Utilities for Window platform and Grasshopper

2014 Sep - present - Development, Numerical Geometry Utility
Geometry Utilities for Window platform and Grasshopper

2014 Sep - present - Development, Architecture Compiler
An add on for Grasshopper for fabrication

2014 Sep - present - Development, Data-Driven Design Agency, Design
Automation, Architecture Compiler for Fabrication add-ons for Rhino
Grasshopper.

2015 Jan - Architectural Exhibition, OUT OF PLANE, DESIGNING FLEXIBLE
STRUCTURES, Asst. Prof. Simon Schleicher, CED, UC Berkeley

2014 May - Visualization, Deconstructing the DMZ for the Imaginary
by Dongsei Kim, The Korean Peninsula at 14th International Architecture
Exhibition, Venice, Italy.

2012 Dec- present - Development, Scripted plugin, Data Visualization Tool
Set for 3D visualization, for 3ds max

2010 Sep- present - Development, Scripted plugin, ANT for Building
Animation, in for 3ds max

2012 May- Designer, application for iPhone and iPad, SnapShop(re-thinking
grocery shopping), MIT, Cambridge, MA, USA

2012 Jan- Visualizer, VR using iPad and prints, Homelessness, Design
Research Institute RMIT, Melbourne, Australia

2011 Aug- Media and visualization artist, SAALAB [Visual Motion Group] 1st
Group Exhibition, 'Look at the sky' for one week, Seoul, South Korea

2010 July- Media and visualization artist, Architectural Collage [AGENDA
Group] for one week, Seoul, South Korea

2010 May- Media and visualization artist, First NJ Private Exhibition for 10
days at MW(Mini Wide & Mini Wall), www.miniwide.com, Seoul, South Korea

2009 Aug- Media and visualization artist, Digital Film Exhibition 'Transition',
at BMH (Blindsound Media Hub) (<http://www.saalab.com>),

2009 May- Visualization technical director for artist Kyung Won Moon, the
National Museum of Contemporary Art Korea, Seoul, South Korea

2006 Oct- Architecture student, Graduation Design Exhibition, Seoul
National University of Science and Technology, Seoul, South Korea