WORKS VOLUME

01 $T = \frac{[A/O + S]}{[A + D]}$
Modular system with Bird, New York, USA

02 Arts School Infrastructure
Modular system with School, New York, USA

03 Oblique Space
Oblique space with Studios, New York, USA

04 Negative Space with Water
Modular system with Spa, Jeju Island, Korea

05 Oblique Field in the House
Voronoi modular system with Housing, Seoul

06 Density of Void
Void with Office, Seoul

07 Three and Four Library
Difference Elements with Library, London

08 Experimental City
Three Experiments with Architecture, DMZ
Columbia University WORK

01 \( T = \frac{[A/O + S]}{[A + D]} \)
Modular system with Bird, New York, USA

02 Arts School Infrastructure
Modular system with School, New York, USA

03 Oblique Space
Oblique space with Studios, New York, USA
Silence: it means observation, it means finding a relationship between human and human, human and nonhuman, and nonhuman and nonhuman. And finally, we can find a problem. And also, we can suggest a solution. This is the temporary artificial forest as pavilion for migratory birds. Through the silence, this project aims mainly to observe some problem in our environment but also to suggest a solution. And finally, it makes the relationship between humans and birds, we can see the decay process and transformation; we can feel various light, sun, light, and shadow made by the pavilion. We can think of various problems around us. We can suggest solutions to that problem as architect. With our artificial tree as art, we can feel, communicate with the environment, and create relationships between birds, nature, and humans. Through silence as observation, we can feel the environment, propose solutions, and see the disassembled relationship of environment. And through assembly and disassembly, I can suggest a solution.
**Kildeer**

**Identification**
- Habitat: Large fields and Grasslands
- Nesting materials: Grass
- Nesting place: Ground, Gravel
- Nesting height: 0–2000mm
- Size: Body: 37–39cm / Wing: 58–60cm

**Yellow Warbler**

**Identification**
- Habitat: Thickets, Streams and Wetlands
- Nesting materials: Grass, Bark, Plants
- Nesting place: In the center of a bush or small tree
- Nesting height: 300–7000mm
- Size: Body: 16–18cm / Wing: 46–52cm

**Barn Swallow**

**Identification**
- Habitat: Large fields and Wetlands
- Nesting materials: Mud, Grass
- Nesting place: Under the eaves of barns and stables, on structures near playing fields, or under bridges
- Nesting height: 2000–5000mm
- Size: Body: 17–18cm / Wing: 32–34.5cm
Today, concrete and iron together account for more than 20% of CO2 emissions. As CO2 increases, global warming is causing serious problems day by day. Man has no privileged place in the world over any other object. And there may be opportunities to shift the design paradigm in a radical way.

The first thought is the idea of Assembly, a thought similar to other architects. Objects (parts) with different characteristics will form an assemblage through interaction. Furthermore, the assemblage becomes a building with a new character. The second thought is about disassembly and reassembly as well as assembly. In the future, I believe that architecture will be assembled and disassembled according to needs. In other words, each part of the building will not be destroyed but will be disassembled and reassembled again.

Disassembly and Reassembly, in my opinion, is not a simple lego combination and disassembly logic. This logic is closer to the concept of reuse. We must consider the pre-and post-life and long-term impacts of systems of extraction, manufacturing, demolition, and disposal of constructed artifacts. The majority of construction waste goes to landfills, exacerbating environmental inequality and increasing construction-related carbon emissions. In other words, the Disassembly and Reassembly system is not a simple lego system but amplifies the potential of a new material economy and logic of reuse.

Rather than generating human conditions through the built environment, the system’s primary goal is to combat climate
Arts School Infrastructure with Disassembly and Reassembly

Today, concrete and iron together account for more than 20% of CO2 emissions. As CO2 increases, global warming is causing serious problems day by day. Man has no privileged place in the world over any other object. And there may be opportunities to shift the design paradigm in a radical way.

The first thought is the idea of Assembly, a thought similar to other architects. Objects (parts) with different characteristics will form an assemblage through interaction. Furthermore, the assemblage becomes a building with a new character. The second thought is about disassembly and reassembly as well as assembly. In the future, I believe that architecture will be assembled and disassembled according to needs. In other words, each part of the building will not be destroyed but will be disassembled and reassembled again.

Disassembly and Reassembly, in my opinion, is not a simple lego combination and disassembly logic. This logic is closer to the concept of reuse. We must consider the pre-and post-life and long-term impacts of systems of extraction, manufacturing, demolition, and disposal of constructed artifacts. The majority of construction waste goes to landfills, exacerbating environmental inequality and increasing construction-related carbon emissions. In other words, the Disassembly and Reassembly system is not a simple lego system but amplifies the potential of a new material economy and logic of reuse. Rather than generating human conditions through the built environment, the system's primary goal is to combat climate emergencies.

The project is located in port morris. Port morris has high rates of violence and poverty, and a high percentage of students who do not graduate from high school. And, there is only one school in port morris where students can attend. In the South Bronx, an organization called the Dream Yard teaches art to children. So, in association with this organization, I am going to set up an art school in port morris. The art school will transform the industrial atmosphere of factory districts and warehouses, and will give students new opportunities.

In addition, I will recycle abandoned traditional gantries and abandoned container boxes, increasing local value. Finally, the project will experiment with future depopulation-related reuse of buildings. So after several years or decades, the building will be disassembled, and then reassembled on north brother island. The north brother island is an abandoned land that is losing its potential value. Also there are traditional gantry. The gantry there will also be recycled and linked to the art school. If port morris revives like the second Soho, north brother island will no longer be an abandoned land, but will erase the pain of the past and be reborn as a new art island.
XS
Base parts of arts school

<table>
<thead>
<tr>
<th>one column part</th>
<th>one column part</th>
<th>one column part</th>
</tr>
</thead>
<tbody>
<tr>
<td>two column part</td>
<td>two column part</td>
<td>three column part</td>
</tr>
<tr>
<td>stair part for classroom</td>
<td>stair part for classroom</td>
<td>outdoor stair part</td>
</tr>
<tr>
<td>bath room part</td>
<td>stair part</td>
<td>personal space part</td>
</tr>
<tr>
<td>community space part</td>
<td>elevator</td>
<td>spiral stair</td>
</tr>
</tbody>
</table>

S
Space units

<table>
<thead>
<tr>
<th>structure of lower part</th>
<th>outdoor common space</th>
<th>small common space</th>
</tr>
</thead>
<tbody>
<tr>
<td>light well / voide</td>
<td>big class</td>
<td>small class</td>
</tr>
<tr>
<td>personal rooms with terrace</td>
<td>community space</td>
<td>vertical circulation</td>
</tr>
</tbody>
</table>
L 2022

in Port Morris
Art school
for children
XL 2032
in North Brother Island

XL 2042
in North Brother Island

Disassembly and Reassembly in North Brother Island
revitalize the abandoned island

Expandable System responding to Flooding and Sea level ise
XL 2032

in North Brother Island
Today, concrete and iron together account for more than 20% of CO2 emissions. As CO2 increases, global warming is causing serious problems day by day. The goal of this project is to build a spatial typology only with wood, without using steel or concrete. And also, by changing the existing spatial typology of the studio, I changed the studio to an oblique spatial typology that receives an equal amount of sunlight. Furthermore, I want to make people realize the importance of plants by participating in planting like urban gardening, not just looking at them. Urban farm roof is very efficient depending on the season. When the sun is high in summer, the angle of the flowerpot blocks the sunlight. And, the grown plants prevent strong sunlight from coming through in. Conversely, when the sun is low in winter, this system allows sunlight to come through deep into the studio. Even in winter there are no crops to block the ingress of sunlight. Therefore, it is possible to reduce the use of unnecessary heat and cooling energy in summer and winter.
Urban Farm Roof

Summer - plant and oblique pot
Adjust the amount of sunlight when the sun is high

Winter - plant(s) and oblique pot
When the sun is low, sunlight enters the studio.
PERSONAL DESIGN RESEARCH WORK

04 Negative Space with Water
Modular system with Spa, Jeju Island, Korea

05 Oblique Field in the House
Voronoi modular system with Housing, Seoul
This project is SPA designed as part of an experiment by the module. The design concept is a spatial device that mediates between Jeju Oreum (parasitic cone) and the beach. It aims to provide people with exterior and interior spatial experiences through water, light, wind, and steam. The single module that combines structure, skin, and space is combined with vertical and horizontal expansion. This method is also combined with various architectural components such as columns, floors, walls, and ceilings to create various languages and rhythms in the space. Inside the building, there are three main areas: Ocean water pool, Hot and Cold water pool, providing people with various spatial experiences based on the depth and temperature of the water.
Modular System

Through the geometrical and topological logic, voids are applied on the rectangular box. The main negative space is replaced by the water space. A total of four modules created through A's transformation are modules that combine structure, skin, and space. This is my alphabet.

Vertical and Horizontal Expansion

The combination of ABCD's vertical and horizontal expansion creates a total of six systems. These are my words.
Space Organism

The six words are combined with various architectural components such as core, walls, ceilings, floors, columns, and stairs. I create a total of three main spaces, and these are my sentences:

Ocean Water pool (Twin + Big)
Cold and Hot water pool (ABCD Loggia)
Core and Public (ABCD Décalcomanie)
Tang (water space)
The main negative space is replaced by the water space. The space of 'tang (water space)' extends the interior space and the rooftop space.
Three water in the building

Three main areas: Ocean water pool, Hot and Cold water pool, providing people with various spatial experiences based on the depth and temperature of the water, and especially people experience the change of the time in the ocean water.
Perspective Section and Space Sequence

Through vertical and horizontal expansion, the combined space creates various languages and rhythms in the space. This is my story.
This project is the housing designed to experiment with the effects of modules on the human scale. The design concept is an intermediate spatial device that connects the city and the mountain. It creates harmony between private space and public space. The module is created using the Voronoi diagram to blur the existing city's vertical and horizontal interrelationship. As an oblique field is placed within the interiors of the house, it highlighted the spatial uncertainty and liquidity. The collection of individual modules aggregated serially through a scale creates various spatial typologies of the house. The house types are combined to create a unit, and the unit creates a modular repeatable system of organization, provided by a grid. The space formed by the aggregation of private units and public units provides people with various experiences like a forest.
Voronoi Modular System

The module is created using the Voronoi algorithm to blur the existing city's vertical and horizontal interrelationship. The oblique surfaces created the interior and exterior space highlight the spatial uncertainty and liquidity. The modules are aggregated by determining the space's scale, creating a variety of spatial types and spatial relationships.
Aggregation of the Units

The aggregated modules are determined as public and private units. Blending of public and private units, creating a modular repeatable system, provided by a grid. The combined units play a part in connecting the city and the mountain.
Section of the Family Unit (Square)

Relationships of public space and private space, relationships of material and elevation
Section of the Single Person Unit (Hexagon)

Relationships of public space and private space, relationships of material and elevation

- 100 x 100 mosaic panel
- pink panel
- green panel
- roof garden
- THK 30 metal panel
- THK 100 cellulose
- THK 150 concrete
- R: 150 round window
- public garden
- core structure
- concrete foundation
- PHC pile

+13125
Section of the Housing

The spaces created by the aggregation of private units and public units, provided by a grid, provide people with various experiences like a forest.
ACADEMIC WORK

06 Density of Void
Void with Office, Seoul

07 Three and Four Library
Difference Elements with Library, London

08 Experimental City
Three Experiments with Architecture, DMZ
This project reinterprets void, a basic element of architectural design. In architecture, void has a possibility to build a space beyond a vaguely empty one. I experiment different types for the density of void and ensure that the sum of all voids construct the huge space inside the building. By using an architectural word 'clone' in a big hexahedron, I give legitimacy to the axes of each direction. Unlike other works, I experiment with types for the façade. Using 4 materials of glass brick, I experiment the density of void on light. Thus, this project is meaningful because it shows a proactive attitude of building a space rather than a passive attitude of architect for void in this project.
Density of Void

The density of void was experimented with 8 floors in total, which results in the construction of a huge space. Not only place but cross-sectional spaces were also built in this experiment.
The office is connected directly to a subway station, so people enter from the first underground level. This shows a big void inside the office and a big void between two big masses through the density of void to build a space, using void actively rather than the passive use of void. Detailed pillars, grid-form beams, intersecting stairs, and the escalator across the space enable a fantastic architectural experience for people.
The percentage of glass brick signifies the opacity proportion of light. After creating 4 glass bricks, I experiment different combinations using the density of void on light, which starts from the experiment of void density on space.

Glass Brick Types

The percentage of glass brick signifies opacity proportion of light. After creating 4 glass bricks, I experiment different combinations using the density of void on light, which starts from the experiment of void density on space.
This project clearly shows the ‘Difference in Thinking,’ which is my basis. To stay away from quintessential library, I have formed a diagonal space using the logic of ‘3’ and ‘4’ through triangular and square proportions, instead of abstract or esthetic logic. To add differences to the diagonal space, this experiment adopts the 7 elements including 4 different oblique plates and a bridge, big void, and small void. To make a change and a new type of library, I have endlessly experimented in this project beyond developing the logic of space. Furthermore, my pursuit of huge difference in thinking from others was reflected in the final model. Instead of following my school’s request to create in 1/200 scale, I chose the 1/100 scale which overwhelmed people. This work enabled me to discover the ‘difference in thinking’ from other students and compose my own architectural difference.
A diagonal space is formed through the logic of 3 and 4, and the same logic is applied on the opposite side using the language of 'clone.' Inside are the open space of library and various masses entangling and intersecting with one another, and the intersecting open space is connected through the bridge.
Difference Elements

7 difference elements have been created to make the spatial change and the new type of library.

- Small void
- Small void
- Oblique plate
- Big void
- 1 and 4 bridge
- Oblique plate
- Oblique plate
- Oblique plate
- Oblique plate
The inner space of three and four library

A diagonal space is formed through the logic of 3 and 4, and different elements are used for the constant transformation of internal space. The bridge connecting the main oblique plate, 4 oblique plates, and voids diversify the internal space and provide various spatial experiences to people.

Transformation of 3 and 4

The logic of 3 and 4 is applied to the bridge connecting the main space.
In a model created at a scale of 1:100, the layers and masses on the floor intersect with each other.
Perspective Section
This project is located with a low contour line of the Thames River in the background, and shows an internal oblique plate, bridge, and the huge space.
08 Experimental City  Architectural Experiment on “Can a Megastructure Itself Develop a New City in the Absence of Context?”

Three Experiments with Architecture, DMZ
Seoul National University of Science and Technology | Thesis | Summer 2016 | Instructor : Jungmin Nam | OA LAB
Minister Prize Award | Fall 2016 | Awarded by Architectural Institute of Korea

This architectural experiment is based on the reunification scenario after the longstanding ceasefire ends between South and North Korea in 2036. The disconnected railway in DMZ is linked to the mega-structure and acts as a new city. To construct a new city, I use Rem Koolhass’s Bigness concept and grid system for expandability. A total of 3 experiments are conducted in “Experimental City,” and using the logic of ‘Pentomino’ puzzles in the first one—that is, it creates 15 types to demonstrate the potential of space construction and new housing functions through a combination method. The second experiment builds cities with 19 space types using topology logic and becomes my architectural database as an experiment to construct a new space. Finally, a megastructure itself acts as a new city, that is, it reinterprets the infrastructure of the existing urban structure.
Experiment 1

Using the logic of Pentomino puzzles, the first experiment creates a total of 15 types to construct housing typologies and housing organizations through spatial construction. Also, the potential (between spaces, diversity, index of complexity, and the effect of void) expected from the combination has fascinated me.
Pentomino System

This system creates the experiment result of type using Pentomino logic, and the total of 15 housing types can be assembled in various ways.
Housing System

This model shows the housing system composed of the necessary architectural components such as core, energy system, road, sidewalk, and infrastructure.
Scenario

In July 2026, South and North Korea open the era of reunified Korean Peninsula after the longstanding ceasefire finally ends, and DMZ becomes a critical point passing through Seoul and Pyeongyang. Although a railway connects the two cities, the highway between Seoul and Pyeongyang stops at the DMZ. Where the existing road is located, the megastructure transforms into a new city.

Grid’s Expandability

Using grid, an architecture tool, I sought to regulate differences between the two cities. While the clash of different ideologies, cultures, and customs after reunification is inevitable, the grid aimed to ensure the autonomy of differences rather than forcing them to be identical. In addition, the expandability of grid is employed with the development of a city, which can be proliferated by various methodologies through self-organization.
Experiment 2
The second experiment builds cities with a total of 19 space types using topological logic, as an experiment for a new space type. Each of the prototypes has become the database for my methodology.

Topology operation
- Variation
- Penetration
- Folding
- Including / Exclusion / Intersection
- Weaving
- Tear
- Strategy of Void

Variation + intersection
DMZ
variation + strategy of void
Zoo city

Variation + penetration
Laboratory City

Variation + fractal of <Experimental City>
Amusement City

Variation
3D printer City

Variation + fractal
Ant nest

Variation + penetration
Maze

Variation + penetration + exclusion
Weaving + penetration + exclusion
Shopping City

Variation + strategy of void
Waffle

Weaving + strategy of void (Fractal)
Culture City

Variation + Strategy of Void
Food city

Möbius
X, Y, Z

Maze
Möbius

Möbius
X, Y, Z

Möbius
X, Y, Z

Möbius
X, Y, Z

Möbius
X, Y, Z

Möbius
X, Y, Z
The third experiment endows a new role of a city to the megastucture itself. To minimize the damage on DMZ, I reinterpret the infrastructure of the existing city. While performing the role of a city through the infrastructure of megastucture, this experiment generates topological differences to react to a new context.
EDUCATION

Columbia University, New York, USA
Master of Architecture, Advanced Architectural Design (MSAAD)
May 2021 - May 2022

Gangnam-University of California, Riverside International Education Center, Seoul, South Korea
Master of Architecture, Architectural Design Course
Full 2018

Seoul National University of Science and Technology, Seoul, South Korea
Bachelor of Architecture, School of Architecture (Architectural Design Course)
Cumulative GPA 4.26 / 4.50 scale
Academic Scholarships 2013 - 2016

WORK EXPERIENCE

MILITARY SERVICE, Hongcheon, Republic of Korea
Republic of Korea Army Sergeant
Assistant Construction Manager: supervised construction and reading drawings

Lifethings, Seoul, South Korea, Lifethings in (Seo-in Yang)
Architect Intern
Summer 2015

Apmap 2015, Yongin, research with way, Sculpture, Yongin city
Designed proposals for various scales of public design competitions including pavilion installations and sculptures;
Tested all designs | Produced 3d modelings, architectural drawings, and panels

Jonghyuk Park's Laboratory, Seoul, South Korea (Jonghyuk Park)
Architecture Intern
Sep. 2016 - Mar. 2017

Three Halls, Sculpture, Pohang city
Made schematic designs for a new sculpture of an apartment | Participated in meetings with clients;
Analyzed site conditions | Produced 3d modeling and physical models | Tested elevation designs

OA LAB, Seoul, South Korea, oa-lab.com (Junghun Nam)
Architecture Intern

Le Arch, Seoul, South Korea, Personal studio (Junoh Lee)
Personal Studio (Professional Design Research)
May 2020 -

Negative Space with Water, Design Research, Jeju Island, Korea

Oblique Field in the House, Design Research, Jeju Island, Korea

HONORS & AWARDS

MINISTER PRIZE AWARD
Received the Grand Prize, AIE 2016 Student Architectural Exhibition
Title of design submission: <Experimental City>
Awarded by: AIE (Architectural Institute of Korea)

The 25th Seoultech University Graduation Exhibition
Received the First Prize, <Experimental City>, Seoultech University
Sep. 2016

THE FIRST PRIZE AWARD
Received the First Prize, LINC 2015 ‘Solving Community Problem’
Awarded by: Nowon-gu Office
Feb. 2016

EXCELLENCE AWARD
Received the Excellence Award, Seoul City Hall ‘Competition of Nuri Space’
Design competition submission titled: <Different Sense>
Awarded by: Seoul City Hall
Jun. 2015

Department Honor Scholarships
Spring / Fall 2013 | Spring / Fall 2014 | Spring 2015 | Spring 2016

PUBLICATION & EXHIBITION

Three Halls in Apartment
Sculpture installation in an apartment, <Three halls> published and exhibited, at Pohang City
Mar. 2017

2016 AIEK Student Architectural Exhibition Magazine

2016 AIEK Student Architectural Exhibition
<Experimental City> in BEXCO, Busan

The 25th Seoultech University Graduation Review 2016
<Experimental City> in Seoultech University

Three and Four Library’s Model Exhibition
in Seoultech University
Dec. 2015 - Present

Competition of Nuri Space Exhibition
<Different Sense> in Seoul City Hall
Jun. 2015

ARCHITECTURAL TRIP

1st ‘First Trip Abroad’
Rome – Florence – Venice – Milan, Italy
2 weeks, Jan. 2011

2nd ‘Between Traditional and Modern’
Paris (Le Corbusier – Jean Nouvel – Frank Gehry – Renzo Piano – Bernard Tschumi), France
2 weeks, Dec. 2014

3rd ‘Beauty of Nature’
Paris - Zurich - Montreale - Lucerne - Interlaken, France and Swiss
2 weeks, Sep. 2018

SKILLS

Drawing, Modeling & Rendering
AutoCad, SketchUp, Revit, Rhino, Rhinoceros V-ray and Grasshopper, 3ds Max with V-ray

Graphic Picture
Adobe program (Illustrator, Photoshop, Indesign, After Effects)

Model-making | Craft
3D Printing, Laser Cutting, CNC Milling, Carving, Photography

Office
Ms (Word, Excel, Powerpoint)

Languages
Korean (Native fluency), English (Professional working fluency)

Model-making | Craft
3D Printing, Laser Cutting, CNC Milling, Carving, Photography

Office
Ms (Word, Excel, Powerpoint)

Languages
Korean (Native fluency), English (Professional working fluency)