Jihoon Chung, Ph.D., LEED AP BD+C, WELL AP, FMP

CONTACT INFORMATION

Grid-interactive Controls Group
Oak Ridge National Laboratory
Tennessee, United States

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https://j-chung.kr/linkedin

QUALIFICATION SUMMARY

- Interdisciplinary researcher specializing in Building Information Modeling (BIM), Internet of Things (IoT), and ontology, and occupant behavior modeling for enhancing indoor environmental quality and energy efficiency
- Pursuing a Ph.D. in Architectural Science at Rensselaer Polytechnic Institute, focusing on developing digital twin platform for co-simulation ecosystem for multidisciplinary simulation environments
- Developed web-based digital twin platforms integrating BIM, IoT, and Building Automation Systems (BAS) for real-time monitoring of indoor environment and occupant behaviors, leading to publications in i3CE and ICCCBE proceedings
- Collaborated with industry and academic leaders, including Autodesk, Lawrence Berkeley Lab, NASA, Solibri, Tetherless World Constellation (TWC), LESA laboratory, and OBMI
- Experienced educator and mentor, serving as a guest lecturer, project mentor, and teaching assistant in programming and smart IoT systems at Rensselaer Polytechnic Institute and high schools in NYC and San Francisco

EDUCATION

Rensselaer Polytechnic Institute, New York, United States

Ph.D., Architectural Sciences (Built Ecologies), GPA: 4.0/4.0, May 2025
- Thesis: "Cross Domain Interoperability Framework for Enhancing Building: Performance: Integrating Building Information Modeling, Building Energy Modeling, Building Control System, and Occupant Behavior"
- Advisor: Dr. Dennis Shelden

Graduate Certificates, May 2024
- Machine Learning & AI | Business Intelligence

M.S., Architecture (Design Technology), GPA: 4.0/4.0, December 2023
- Advisor: Dr. Dennis Shelden

Yonsei University, Seoul, Korea

M.S., Architectural Engineering (Construction IT), GPA: 3.97/4.0, February 2021
- Thesis: "Technical Specification Framework for 3D Concrete Printers"
- Advisor: Dr. Ghang Lee

B.Arch, Architecture (5–year program), February 2019

National University of Singapore, Singapore

Exchange Program for a year in AY2017

Gunmyungwon (건명원), Seoul, Korea

Future New School of Humanities, Arts & Science, February 2016

RESEARCH & WORK EXPERIENCE

Oak Ridge National Laboratory, Tennessee **May 2025 – Current**
Postdoctoral Research Associate
- Grid-interactive Controls Group (led by Dr. Jamie Lian) under Energy Science and Technology Directorate

Oak Ridge National Laboratory, Tennessee **February 2025 – May 2025**
ORISE Graduate Researcher

- Developed a generalizable building control web application for small- and medium-sized commercial buildings by utilizing VOLTTRON, IoT sensors, and BOPTEST
- Participated in Graduate Research at ORNL program (Mentored by Dr. Sen Huang)

Center for Architecture Science and Ecology, New York **August 2021 – May 2025**
Research Assistant

- Developed prototypes of a SHACL-based IFC-to-Brick converter and an IFC4.3-to-ECS translator in collaboration with industry experts from Autodesk, Solibri, and Trimble, showcased them at the IFC Implementers Meeting of buildingSMART International
- Developed a web-based building monitoring system for occupant behavior using BIM, IoT, Building Automation System (BAS), and semantic web technologies
- Designed Arduino circuit boards and developed a web server for IoT-based plant modules to autonomously manage plant health by controlling water pumps, grow lights, and fans, as a part of Plant Pixel project sponsored by OBMI
- Organized and hosted the guest lecture series "AI Technology in Built Ecologies" as part of the 'CASE Built Ecologies Graduate Seminar', featuring four expert lecturers specializing in AI technologies within the field of built ecologies

Lawrence Berkeley National Laboratory, California **January 2024 – August 2024**
Research Affiliate

- Enhanced standardized occupant behavior schema (obXML v.1.4) as a part of the ASHRAE RP-1815 project
- Updated the obFMU Application Guide and IDF files in the tutorial to enhance the compatibility with the latest version of EnergyPlus (v.24.1.0)
- Converted C++-based occupant behavior simulator (obFMU) into Python version for integration with data-driven occupant behavior modeling and BIM
- Explored development of a web platform for real-time energy simulation using EnergyPlus, obFMU, and sensor data
- Hosted by Dr. Tianzhen Hong

Autodesk, New York **May 2023 – August 2023**
Intern, Sustainable Active and Passive Mechanical Systems Simulation and Optimization

- Explored integration of generative design process with natural ventilation simulation for evaluating the performance of the ventilation systems at the early design stage using EnergyPlus
- The internship project was published and introduced on the Autodesk Research blog [URL]
- Volunteered to support AEC Mentor Program for underrepresented-minority teenagers who participated in a paid two-week internship at Autodesk's Boston office

Saman Corporation, South Korea **February 2021 – July 2021**
Researcher

- Planned application services using real-time data collected from IoT sensors on construction sites in a national research project 'Development of and digital twin platform for smart construction'
- Assisted to prepare kick-off meetings and presentations in a national research project 'XR Flagship Project (Construction part)'
- Wrote bills of quantities in a pilot design project on a box culvert organized by Korea Expressway Corporation

Building Informatics Group, Yonsei University **February 2018 – January 2021**
Research Assistant

- Proposed a technical specification framework for 3D concrete printers through a systematic literature review and a Delphi study

- Developed a multi-dimensional classification algorithm for housing defects text data using BERT-based multitask learning technique (Recurrent Neural Network)
- Explored optimization algorithm for buildability of 3D concrete printing focused on operation planning and concrete properties

ATEAM Ventures, South Korea **May 2015 – August 2015**
Strategic Planning staff

- Planned strategies for marketing & sales and held a 3D-printer exhibition at KINTEX, Ilsan
- Installed a factory to assemble 3D-printers and managed mechanical components
- Managed all customer inquiries, wrote customer manuals, and sent thank-you letters to early customer

XbarX (X_X), South Korea **May 2014 – February 2015**
Sales Director & Co-founder

- Launched a beer recommendation app and beer-distribution web platform
- Got partnerships with 218 beer pub, bar, and restaurant in Seoul, South Korea
- Got a shared 3rd award with a $4,500 cash prize in 'The 3rd Chung Ju-young Start-up Competition' and funding, $140,000 from a start-up accelerator

TEACHING & MENTORING EXPERIENCE

Engineering for US All, Tennessee **July 2025 – Present**
e4usa Liaison

- Supported engineering programs at Clinton High School, Oak Ridge, TN

CodePath, USA **July 2025 – Present**
Mentor

- Advised college students on application strategies and interview preparation for positions at tech companies

Mentors in Tech, USA **July 2025 – Present**
Mentor

- Advised college students on application strategies and interview preparation for positions at tech companies

Rensselaer Polytechnic Institute, New York **August 2021 – February 2025**
Guest Lecturer

- 'Node-RED 101 for your own Smart IoT-based System' in 'Internetworking of Things (ECSE-4660/ECSE-6660)' course (February 23, 2024)

Project Mentor

- Taught and led an undergraduate group in a research-oriented class 'Research Investigation (ARCH-4958)' (Fall 2022, Fall 2023 & Fall 2024)
- Advised an undergraduate to develop an algorithm evaluating plants' health using a color sensor as a part of the Plant Pixel project sponsored by OBMI (Fall 2023)
- Provided advice to undergraduates in an interdisciplinary project 'Smart Dormitory Devices and Development System (ECSE-4900)' (Fall 2022, Spring 2023 & Fall 2023)
- Participate in Smart City Hackathon 2023 organized by Tech Valley Center of Gravity as a microcontroller-knowledgeable mentor (October 13-15, 2023)

Workshop Instructor

- 'Build an IoT Monitoring System for Your Smart Home' at Black Families Technology Awareness Day (February 2022, February 2023 & February 2025)

Microsoft TEALS, New York **August 2023 – May 2025**
Programming Teaching Assistant

- AP Computer Science Principles (Fall 2023, Fall 2024, and Spring 2025) at Franklin D Roosevelt High School, NYC
- AP Computer Science A (Spring 2024) at El Camino High School, San Francisco, CA

Lawrence Berkeley National Laboratory, California **June 2024 – July 2024**
Teaching Assistant & Project Facilitator

- Intro to Python & Data Science course in Experiences in Research (EinR) bootcamp 2024 (6-week summer internship)
- Intro to Python & Data Science course in Berkeley Lab Director's Apprenticeship Program (BLDAP) 2024
- Robotics projects in Science Accelerating Girls' Engagement in STEM (SAGE) summer camp 2024

Code Nation, New York **August 2022 – June 2024**
Programming Teaching Assistant

- Intro to Web Development (Spring 2024) course at Collegiate Institute for Math & Science, NYC
- Intro to Web Development (AY2022–2023) & Fellowship I (JavaScript/jQuery, Fall 2023) courses at Achievement First East Brooklyn High School, NYC

Yonsei University, South Korea **March 2019 – June 2020**
Teaching Assistant

- Engineering-Information Processing (Spring 2020)
- Computer Lab Manager (Spring 2019)

PUBLICATIONS

(In Progress) **Chung, J.**, Huang, S. and Lian, J. (2025) "Low-Cost, Open-Source Building Energy Management Platform for Scalable Deployment in Small and Medium Commercial Buildings " *Automation in Construction*

(In Progress) **Chung, J.**, Hong, T., Malik, J. and Shelden, D. (2025) "Enhanced Library of Occupant Behavior Models and gb-obXML Schema Editor for Interoperability between Building Information Modeling and Building Energy Modeling" *Building Simulation*

(Submitted) Ma, N., Lu, Y., **Chung, J.**, et al. (2025) " Ten Questions Concerning High Performance Buildings for Thermal Resilience and Health " *Building and Environment*

Chung, J., Hong, T., Malik, J. and Shelden, D. (2025) "Enhancing Occupant Behavior Representation for Interoperability between Building Information Modeling and Building Energy Modeling" *Building Simulation*, 18(7), 1-24, https://doi.org/10.1007/s12273-025-1313-z

Chung, J., Neo, K., Khan, M., Cruz, E., Zheng, Z., Munasinghe, T., and Wei, J. C. (2025) "Exploring Flooded Fraction Prediction through Machine Learning Models Focusing on Medical Infrastructure in the Southeast U.S. Coastal Areas" *Proceedings of the IEEE BigComp 2025*, https://ntrs.nasa.gov/citations/20250000362

Chung, J. and Shelden, D. (2024) "A Framework of ifcJSON-based Digital Twin Platform for Monitoring Building Environment using BIM, IoT, and Semantic Web Technologies" *Proceedings of the 20th International Society for Computing in Civil and Building Engineering*, Montreal, Canada, 26 Aug, https://doi.org/10.1007/978-3-031-84208-5_4

Chung, J., Karlicek, B., and Shelden, D. (2024) "Towards Real-Time Occupant Behavior Monitoring System: A Preliminary Study on Integrating BIM, IoT Sensors, and BAS" *Proceedings of ASCE International Conference on Computing in Civil Engineering 2024*, Pittsburg, USA, 29 Jul.

Chung, J., Shahmansouri, N., Stoddart, J., Goldstein, R., and Locke, J. (2024) "Sustainability through Optimal Design of Buildings for Natural Ventilation using Updated Comfort and Occupancy Models" *Proceedings of SimBuild Conference 2024*, 11, pp. 849-860, Denver, USA, 30 May, https://publications.ibpsa.org/conference/paper/?id=simbuild2024_2172

Wei, J., Gerasimov, I., Munasinghe, T., **Chung, J.**, Cruz, E., Neo, K., Yu, Y. Z., Zheng, Z., and Khan, M. (2024) "Advancing Open Science in Atmospheric Research: Integrating Data Usability and Machine Learning" In *Asia Oceania Geosciences Society (AOGS) 2024 21th Annual Meeting*, https://ntrs.nasa.gov/citations/20240007793

Chung, J., Hong, T., Karlicek, R., Santos, H., Shelden, D., and Sparks, D. (2024) "Distributed Semantics to Support Built Environment Digital Twins" In *NSF Workshop on Sustainable Computing for Sustainability 2024*, Alexandria, USA, 17 Apr.

Chung, J., Tsamis, A., and Shelden, D. (2023) "A framework for monitoring and identifying indoor air pollutants based on BIM with IoT sensors" *Proceedings of Computer-Aided Architectural Design. INTERCONNECTIONS: Co-computing beyond boundaries: 20th International Conference, CAAD Futures 2023*, pp. 518-531, Delft, Netherlands, 5 Jul., https://doi.org/10.1007/978-3-031-37189-9_34

Chung, J., Jacoby-Cooper, G., Rook, K., Henrique, S., Shelden, D., Kendall, E., and McGuinness, D. (2023) "Towards an Indoor Environmental Quality Management Ontology" *Proceedings of First International Workshop on Semantic Web on Constrained Things @ ESWC-23 (SWoCoT-23)*, pp. 16-26, Hersonissos, Greece, 28 May, https://hdl.handle.net/20.500.13015/6674

Chung, J., Lee, G., and Kim, J. (2021) " Framework for Technical Specifications of 3D Concrete Printers" *Automation in Construction*, 127, 103732, https://doi.org/10.1016/j.autcon.2021.103732

(Submitted) Woo, J., **Chung, J.**, and Koo, H. (2021) " A Study on the Pedestrian Route Choices and Accessibility in the Retail Areas after Acute COVID-19: Focused on the Peak Commercial Activity's Hours in the Mangwon District" *Journal of the Urban Design Institute of Korea*

Chung, J., Lee, G., Kim, J. and Choi, J. (2020) "A Comparative Analysis of the Classification System for Three-Dimensional Concrete Printers" *Korean Journal of Construction Engineering and Management*, 21(2), 3-14, https://doi.org/10.6106/KJCEM.2020.21.2.003

Chung, J., Lee, G., and Kim, J. (2020) "A Systematic Review of the Geographic and Chronological Distributions of 3D Concrete Printers from 1997 to 2020", *Proceedings of the 37th International Symposium on Automation and Robotics in Construction (ISARC)*, pp. 84-19, Kitakyushu, Japan, 27-28 Oct., https://doi.org/10.22260/ISARC2020/0014

Lee, G., Cho, J., Song, T., Roh, H., Jung, J., **Chung, J.**, Yong, G., and Jeong, D. (2020) "Construction Field Management Using a Popular Text Messenger" *Proceedings of the 18th International Conference on Computing in Civil and Building Engineering*, pp. 971-979, https://doi.org/10.1007/978-3-030-51295-8_67

Chung, J., Lee, G., and Kim, J. (2018), "Performance Evaluation Criteria for Building 3D Printing Focused on Concrete Properties", *Proceedings of the 2018 Annual Conference of the Korea Institute of Construction Engineering and Management*, pp. 27-29, South Korea, 9 Nov.

PATENTS

(Submitted) **Chung, J.**, Stoddart, J., Locke, J., Goldstein, R., and Shahmansouri, N. (2024) "Automated Generation and Analysis of Natural Ventilation Performance Using Tile-based Building Geometry", USA

(Submitted) **Chung, J.**, Stoddart, J., Locke, J., Goldstein, R., and Shahmansouri, N. (2024) "Automated Comparative Analysis of Alternative Comfort and Occupancy Models in Building Energy Analysis", USA

Kim, J., Lee, G., Lee, D., Lee, J., **Chung, J.** (2020), "3D printer for construction with continuous printing on the go and 3D printing system comprising it", Application Serial No. KR20200101482A, South Korea, https://patents.google.com/patent/KR20200101482A/ko 9 Nov.

ARTICLE

Chung, J. (2024) "Want To Be More Comfortable Indoors? Let Your Building Help" *Every Day Matters:* RPI Blog, [URL]

Lee, G., **Chung, J.**, and Kim, J. (2021) "On What Basis Should We Buy a 3D Concrete Printer?" *Building Construction*, 21(4), 31-34, [URL]

HONORS & AWARDS

Faculty Graduate Recognition Award for Excellent Academic Achievement **May 2025**
Rensselaer Polytechnic Institute, New York

DB Dream Master Scholarship Award for two semesters **May 2024**
DB Kim-Jun-Ki Cultural Foundation, South Korea

IBPSA-USA SimBuild Conference Student Scholarship Award **March 2024**
IBPSA-USA SimBuild Conference 2024, United States

Graduate Research Symposium (Podium Presentations), The 3rd Prize **June 2022**
Rensselaer Polytechnic Institute, New York

Research Assistantship Award for 2021-2025 academic year **August 2021**
Rensselaer Polytechnic Institute, New York

The 17th Outstanding Thesis Competition, Honorable Mention **April 2021**
Architectural Institute of Korea, South Korea

2019 Yonsei Startup Lab Contest ($2,700), Best Startup Award **July 2019**
Yonsei University, South Korea

2018 KICEM Annual Conference, Excellent Paper Award **November 2018**
Korea Institute of Construction Engineering and Management, South Korea

Academic Scholarships for four semesters **March 2016 – September 2018**
Yonsei University, South Korea

The 12th Architectural Engineering Competition, Excellent Award **September 2016**
The Korean Structural Engineers Association, South Korea

Volunteer Full-Scholarship for two semesters **March & September 2016**
DB Kim-Jun-Ki Cultural Foundation, South Korea

The 3rd Chung Ju-young Startup Competition ($4,500), Excellent Startup Award **August 2014**
The Asan Nanum Foundation, South Korea

The 18th National Boxing Competition for Non-Athlete, The 1st Prize **August 2012**
Korea Boxing Institution, South Korea

Chief Superintendent's Award for Leadership **May 2011**
Seoul Metropolitan Office of Education, South Korea

RESEARCH PROJECTS

Plant Pixel **August 2023 – December 2023**
OBM International, United States

Development of Digital Platform and Digital Twin based on Management Technology for Smart Construction **February 2021 – July 2021**
Korea Agency for Infrastructure Technology Advancement (KAIA) [URL]

XR Flagship Project (Construction part) **June 2021 – Jul 2021**
Ministry of Science and ICT & National IT Industry Promotion Agency, Korea [URL]

Development of Innovative Design, Material and Equipment for 3D Printing Small Buildings/Freeform Members **March 2018 – February 2021**
Korea Agency for Infrastructure Technology Advancement (KAIA) [URL]

PRESENTATIONS & INVITED TALKS

Digital Twin: Multidisciplinary Co-Simulation Ecosystem **December 3, 2024**
GRIDD Lunch & Learn, École de technologie supérieure, University of Québec

A framework of BIM & IoT-based Building Infrastructure for Monitoring Indoor Air Quality and Occupant Behavior **September 27, 2023**
Research Showcase — Reunion & Homecoming 2024, RPI [Poster]

IFC Simplification and Granular Component Demo & IFC-LD / SHACL Implementation Developments **August 29, 2024**
General Assembly of Implementers, buildingSMART International [Oral]

How Programming is Used in Architecture & Building Technology? **April 11, 2024**
Computer Science Career Panel, El Camino High School

A Daily Flooding Risk Assessment Map for Medical Infrastructures Using Machine Learning Algorithms **January 22, 2024**
AGU23 Fall Meeting [Poster]

A framework of BIM & IoT-based Building Infrastructure for Monitoring Indoor Air Quality and Occupant Behavior **October 13, 2023**
Research Showcase — Reunion & Homecoming 2023, RPI [Poster]

Sustainability through Optimal Design of Buildings for NV and Post-Occupancy Using Updated Comfort Models **August 17, 2023**
Research Connections — Summer Intern Series, Autodesk [Oral]

Daily Flooding Risk Assessment Map for Medical Infrastructures using Machine Learning Algorithm **August 8, 2023**
AmeriGEO Week 2023 'Data Driven Solutions for a Sustainable Planet' [Poster]

Towards an Indoor Environmental Quality Management Ontology **May 12, 2023**
2023 8th Annual Graduate Research Symposium, RPI [Oral]

A framework for monitoring and identifying indoor air pollutants based on BIM with IoT sensors **May 12, 2023**
2023 8th Annual Graduate Research Symposium, RPI [Poster]

Air Quality Monitoring System based on BIM & IoT **November 2, 2022**
EBESS Industry Workshop 'Well-being & Sustainability in the Built Environment', RPI [Poster]

Air Quality Monitoring System based on BIM & IoT **May 13, 2022**
*2022 7th Annual Graduate Research Symposium, RPI [Poster, Oral – **3rd Place**]*

A Systematic Review of 3D Concrete Printers from 1997 to 2020 **October 28, 2022**
37th International Symposium on Automation and Robotics in Construction (ISARC) [Oral]

Performance Evaluation Criteria for Building 3D Printing **November 30, 2018**
2018 Annual Conference of KICEM [Oral]

SKILLS

Programming Languages: Python, C#, JAVA, C++, JavaScript (React.js, Node.js, Three.js, ifc.js, Express.js, Node-RED), TypeScript, P5 Processing, SPARQL, SQL

CAD/CAE: Rhino (+Grasshopper, Ladybug, Honeybee, Butterfly), Revit (+Dynamo, Ladybug, Honeybee, Butterfly), Sketchup, CATIA, AutoCAD, Midas Civil

Design tools: Adobe Photoshop, Illustrator, InDesign, Premiere Pro, Lightroom, Experience Design

Machining: Arduino, Raspberry Pi, 3D printer, Laser Cutter

Others: OpenStudio (+EnergyPlus), Contam, Functional Mockup Unit (+obFMU, EnergyPlusFMU, ContamFMU), Tensorflow (+Keras), Pytorch, SPSS, SHACL, Protégé

CERTIFICATIONS

LEED AP BD+C (Credential ID: 11476216-AP-BD+C) **September 20, 2024**
U.S. Green Building Council

Facility Management Professional (Credential ID: 1193106) **June 27, 2024**
International Facility Management Association (IFMA)

WELL AP (Credential ID: WELL-AP-0000134489) **February 6, 2023**
International WELL Building Institute (IWBI)

LEED Green Associate (Credential ID: 11476216-GREEN-ASSOCIATE) **August 13, 2022**
U.S. Green Building Council

2020 AI Technical Development Workshop (Image/Video Recognition) **August 7, 2020**
Korea Electric Power Corporation (KEPCO)

The 9th Image Recognition Application Workshop **October 19, 2019**
Fast Campus (패스트캠퍼스)

The 3rd Object Detection Application Workshop **September 7, 2019**
Fast Campus (패스트캠퍼스)

DA BIM Specialist Intermediate Workshop **July 14, 2019**
DAGROUP Urban Design & Architecture Co., Ltd

2018 BIGDATA X CAMPUS (Python-based Big Data Analysis) **June 14, 2018**
Korea Data Agency

ACADEMIC SERVICE

Journal Reviewer

- Building Simulation: An International Journal
- Energies
- Buildings
- Journal of Building Engineering
- Processes
- Journal of Civil Engineering and Architecture
- Journal of Civil, Construction and Environmental Engineering

Academic Conference Reviewer

- IBPSA-Australasia Building Simulation Conference 2025
- International Conference on Modern Management based on Big Data 2025
- International Conference on Artificial Intelligence, Computer, Data Sciences and Applications 2025
- International Conference on Electrical, Computer and Energy Technologies 2025
- International Conference on Electrical, Computer, Communications and Mechatronics Engineering 2024 & 2025
- IBPSA-USA SimBuild Conference 2024

- International Conference on Electrical and Computer Engineering Researches 2024

Invited Juror
- Architectural Drawing & Representation at GSAPP, Columbia University (Fall 2023)

Judge
- Green Scholars Program Science Fair 2024
- Contra Costa County Science & Engineering Fair 2024
- Alameda County Science & Engineering Fair 2024

Application Reviewer
- Science en Accion 2024 at Berkeley Lab
- Science Accelerating Girls' Engagement in STEM (SAGE) 2024 at Berkeley Lab
- Quantum, Computing, Mathematics & Physics (QCaMP) 2024 at Berkeley Lab
- Berkeley Lab Director's Apprenticeship Program (BLDAP) 2024

Session Chair
- IBPSA-USA SimBuild 2024

Committee Member
- Member, Research Committee, International Building Performance Simulation Association - USA (IBPSA-USA)
- Provisional Corresponding Member, Technical Committee (T-TAC-TC07.05), American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE)

MEDIA APPEARANCES

Meeting Future Talents with Diverse Dreams: 2024 DB Dream Master Scholarship Award Ceremony **June 11, 2024**
DB Story Blog, DB Kim-Jun-Ki Cultural Foundation, Korea [URL]

Recently Published by Autodesk Researchers **January 18, 2024**
Autodesk Research Blog [URL]

CASE Doctoral Student To Conduct Fellowship at Berkeley Lab **January 10, 2024**
Every Day Matters, Rensselaer Polytechnic Institute [URL]

Nurturing Blue Dreams at the School of Architecture **September 5, 2018**
EBS News, South Korea [URL]

LEADERSHIP EXPERIENCE

Project leader, Rensselaer Polytechnic Institute **January 2023 – May 2024**
- Led a class project with six computer-science students in *Xinformatics* and *Data Science* courses aiming to develop machine learning models for predicting flood using big data from NASA, FEMA, and HIFLD
- Had poster presentations at *AGU23 Fall Meeting* and *AmeriGEO Week 2023*
- Collaborated with Dr. Jennifer Wei, NASA Lead Scientist, and Thilanka Munasinghe, RPI Lecturer for publication

Project leader, Social Algorithm 7.0 Workshop **August 2020**
- Led a team project in an international online-workshop organized by Social Algorithm Research Group
- Analyzed spatial network using Rhino + Grasshopper with Python, and conducted on-site surveys for the validation
- Based on the analysis result, submitted a journal article to *Journal of the Urban Design Institute of Korea*

Casting Director & Co-founder, We Ask, Korea **January 2013 – September 2014**
- Co-founded a conference-planning organization called '젊음이묻습니다', gathering 100+ NGO-interested students

- Invited 30+ celebrities to have talks with students, such as Im Kwon-taek, Ko Un, Kim Jung-man, and so on
- Got sponsorships from publishers, theatres, and student councils to implement marketing plans

The 9th Chief Representative, Global Intelligence, Korea **January 2012 – July 2013**
- Directed a volunteer group consisting of 69 college students to organize mentoring programs for teenagers

VOLUNTEER EXPERIENCE

Lawrence Berkeley National Laboratory, California **January 2024 – August 2024**
Application Review Board / Mentor / STEM Activity Supporter

Y-Zone Project in STEM Alliance, New York **October 2021 – September 2022**
Bilingual (Korean/English) Volunteer Translator

Major Mentoring Program in Yonsei University**,** Korea **March 2019 – May 2021**
Architecture-Major Mentor

Architecture School in Junglim Foundation, Korea **August 2018 – October 2018**
Architecture Tutor

Global Volunteering Program in Dongbu Foundation, Vietnam **January 2017**
Student Volunteer

Student Volunteer Group in Dongbu Foundation, Korea **February 2016 – February 2017**
Volunteer & Scholarship Holder

Global Engineering Program in Yonsei University, Indonesia **August 2016**
Student Volunteer & Assistant Manager

Seoul Junghwa Secondary School, Korea **September 2012 – December 2012**
Speech Tutor

Seoul Soongduck Primary School, Korea **March 2012 – July 2013**
Speech Tutor

Kyoto International School, Japan **August 2012**
Korean Tutor

REFERENCES

Available upon request.