

C.V.

Dr. Taro Narahara

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Associate Professor with Tenure, New Jersey Institute of Technology (NJIT)
Registered Architect in NY

[Portfolio](#)

SUMMARY

Taro Narahara is a tenured Associate Professor at the New Jersey Institute of Technology (NJIT), specializing in computational design, artificial intelligence, and immersive media in architecture. His research has been published and exhibited internationally, including in *IEEE Transactions on Multimedia* and at ACM SIGGRAPH. He received the IDR Excellence Award (National Institute of Informatics, Japan, 2021) and the Human Communication Award (IEICE, 2020) for pioneering machine-learning approaches to architectural floor plan analysis. Narahara has served as Principal Investigator on an NSF-funded project in computational design for multifamily residential architecture (2022) and as Co-Principal Investigator on an NSF project in rehabilitation robotics and therapeutic gaming (2016). As a licensed architect in both New York and Japan, he contributed to award-winning projects with Skidmore, Owings & Merrill and Gluckman Mayner Architects, including the Mori Art Museum in Tokyo.

EDUCATION

2007–2010

Harvard University Graduate School of Design (GSD), Cambridge, MA

Doctor of Design

Dissertation: *Self-Organizing Computation: A Framework for Generative Approaches in Architectural Design*
Focus: Architectural Computing, Generative Design, Robotic Fabrication [[PDF](#), [Website](#)]
Committee: Martin Bechthold (Adviser, GSD), Kostas Terzidis (GSD/Tongji), Takehiko Nagakura (MIT)
Awards: Peter Rice Prize; Digital Design Prize

2005–2007

Massachusetts Institute of Technology (MIT), Cambridge, MA

Master of Science in Architecture Studies (Design and Computation)

Thesis: *The Space Re-Actor: Walking a Synthetic Man through Architectural Space*. [[PDF](#), [Website](#)]
Committee: Takehiko Nagakura (Adviser, MIT), Kostas Terzidis (GSD/Tongji), Terry Knight (MIT)

1994–1997

Washington University, Graduate School of Design, St. Louis, MO

Master of Architecture

Adviser: Adrian Luchini

1990–1994

Waseda University, School of Science and Engineering, Tokyo, Japan

Bachelor of Science in Mathematics

Focus: Differentiable Manifolds, Twistor Space

ACADEMIC POSITIONS

2010–present

New Jersey Institute of Technology (NJIT)

2016–present

Associate Professor (Tenured), Hillier College of Architecture and Design

2010–2016

Assistant Professor (Tenure-track), Hillier College of Architecture and Design

Tenured joint appointment in the School of Architecture and the School of Art + Design.

Courses taught (Ph.D. in Urban Systems, Master's, and Undergraduate):

- [USYS792](#): Urban Systems Ph.D. Research • [ARCH689](#): AI/VR in Architecture • [ARCH 595](#): Adv. Studio
- [ARCH 563](#): Options Studio • [DD464](#): Digital Design Thesis Studio • [DD375](#): Physical Computing Studio
- [AD463](#): Collaborative Studio • [AD\(Electives\)](#): Smart Products/ Robotics for Architects/ Computational Design

2018–2019

Graduate School of Information Science and Technology, The University of Tokyo

Visiting Scholar (Computer Science) – Prof. Toshihiko Yamasaki's Laboratory
(while on sabbatical from NJIT).

2018–2019

Institute of Technology in Architecture (ITA), ETH Zurich

Academic Guest (Architecture) – invited by Dr. Vahid Moosavi and Dr. Arash Adel
(while on sabbatical from NJIT)

2009–2010

Harvard Digital Media Workshop (*Intensive three-week workshops for 40+ graduate students*)

- Instructor
 - [Processing Workshop](#) (Web-based interactive programming)
 - [Rhino Script Workshop](#) (Programming in 3D CAD environments)

2007–2010

Harvard University Graduate School of Design (GSD)

Research Fellow – Assisted Prof. M. Bechthold in robotics research; implemented vision system for ABB robots.

- Teaching Fellow
 - [GSD6.415](#): Construction Automation (Robotic fabrication using 6-axis ABB robots)
 - [GSD2.309](#): Algorithmic Architecture • [GSD2.107](#): Digital Design: Algorithm & Scripts

2006–2007

Massachusetts Institute of Technology (MIT)

- Teaching Assistant
 - [MIT4.560](#): Geometric Modeling • [MIT4.156](#): Advanced Design Studio Level III

Professional Works (selected built projects completed during my tenure at GMA):



PROFESSIONAL EXPERIENCE

- 2000–2005** **Gluckman Mayner Architects (GMA), New York, NY** (now Gluckman Tang Architects)
- 2000–2003 Mori Art Museum, Tokyo, Japan
Project Architect from schematic design through opening. Designed a cable-net-shell entrance pavilion and 30,000 ft² exhibition spaces. Coordinated with Japanese local architects and construction firms (Mori Building Co., Irie-Miyake Architects, Kajima, Obayashi).
American Architecture Award, 2004,
The Chicago Athenaeum, Museum of Architecture and Design, 2004. [[Photos1 & 2](#)]
- 2004 MoMA Store, New York
Project Architect for 5,700 ft² retail interior, including fixtures, from schematic design to construction documents.
- 2003 Hotel Puerta de America, Madrid, Spain
Project Architect for hotel rooms, suites, and public spaces in a 14-story building, from schematic design to construction documents. [[Photos](#)]
- 2004 Museo Picasso Málaga, Málaga, Spain
Project Team. Schematic design, development, and monograph publication with 2x4 Inc.
Institute Honor Award for Architecture, American Institute of Architects, 2006
- 2004 Philadelphia Museum of Art Annex, PA
Project Team. Construction document phase.
Grand Jury Presentation Achievement Award, Preservation Alliance for Greater Philadelphia, 2007
- 2005 Robin Hood Library for P.S. 192, New York
Project Team. Construction document phase.
Award of Excellence in Library Architecture, AIA/American Library Association (ALA), 2007
- 2002 Vassar College – Kenyon Hall Renovation, Poughkeepsie, NY
Project Team. Construction document phase.
- 2002 Close Residence, Bridgehampton, NY
Renovation and studio addition for artist Chuck Close.
- 1997–2000** **Skidmore, Owings & Merrill LLP (SOM), New York, NY**
- 1997–2000 Kuwait Police Academy, Kuwait
Design Team (Principal: Roger Duffy). Contributed to the primary design concept and participated in master planning, schematic design, and development for a 4.5 million ft² campus.
- 2000 Woolworth Tower Renovation, New York
Design Team (Principal: Roger Duffy). Landmark submission, schematic design, and development for renovation and penthouse addition.
- 1999 Mangaf Hilton Resort Hotel, Kuwait
Design Team (Principal: Roger Duffy). Design development.
- 1998 Time Warner Center (Columbus Center), New York
Design Team (Principal: David M. Childs). Final competition submission.
Winner: First Prize.
- 1998 Swiss Bank, Connecticut
Design Team (Principal: Mustafa Abadan). Design development.
- 1999 2 Broadway, New York
Design Team (Principal: Roger Duffy). Interior renovation, lobby redesign, and security desk design.

1998	Rafael Viñoly Architects PC, New York, NY (<i>Summer Free-lance Work</i>) <u>Philadelphia Concert Hall, PA</u> – Schematic design phase, Design Team. <u>The Jazz at Lincoln Center Theater, New York</u> – Schematic design phase, Design Team.
1997	Adrian Luchini, Design Center, Sverdrup Facilities, Inc. St. Louis, MO. <u>Beersheba Chapel, TN</u> – Design Team. AIA Design Excellence Award: Unbuilt Project Category, 1998. <u>Gateway Transportation Center, St. Louis, MO</u> – Schematic design phase, Design Team. <u>Costantini Museum Competition, Buenos Aires, Argentina</u> – Schematic design phase, Design Team.

PROFESSIONAL LICENSES

2004–present	Licensed and Registered Architect (RA), State of New York. NCARB Certification (<i>National Council of Architectural Registration Boards</i>) qualified. Completed the Intern Development Program (<i>IDP</i>) in 2003.
2018–present	First-Class Architect in Japan (1st-class Kenchikushi), Japan. National license issued by the Ministry of Land, Infrastructure, Transport and Tourism. Exempt from mandatory periodic training. Not affiliated with a registered architectural office.
1994	Teaching Certificate , Tokyo Metropolitan Board of Education, Japan. Qualified to teach mathematics at the high school level in Japan.

AWARDS AND RECOGNITION

2025	Architizer Vision Award — Special Mention, Experimental Category Recognized by an international jury including Daniel Libeskind, Winka Dubbeldam, and Steven Holl. [Link].
2025	Thematic Award, Annual Architecture in Perspective (AIP) 39 Professional Competition The American Society of Architectural Illustrators (ASAI). Theme: "ARTificial Intelligence." [Link , Poster].
2025	Excellence Award, Digital Art, Open-Call Exhibition, Shoto Museum of Art, Tokyo One of two recipients selected from 107 submissions reviewed by expert jurors. [Link]
2024	Honorable Mention, AI Museum, International Design Competition , NON-ARCHITECTURE SRL Collaborated with Oyke Alcin (M.S. in Arch. Student, NJIT). [Link].
2022	Honorable Mention, AEC Tech NYC Hackathon , Project: GraFix [Link] (Team: Yankun Yang, Seyedomid Sajed, Sila Gulgec, Yuan-Tung Chou, Mostapha Roudsari, Mingbo Peng, Taro Narahara, Alireza Memarian)
2021	Informatics Research Data Repository (IDR) Excellence Award , [Link] National Institute of Informatics (NII), Japan, 2021 (with Kitabayashi, R., Kasanishi, T., & Yamasaki, T.)
2020	Human Communication (HC) Award , IEICE (The Institute of Electronics, Information and Communication Engineers) in Japan. Annual Best Paper Award for a co-authored paper on real estate floor plans (first author and presenter). [Link].
2019	Media Experience and Virtual Environment (MVE) Award , IEICE. Best Presentation and Paper Award at MVE2019 Nagoya (co-authored with Wang, X. & Yamasaki, T.).
2016	Excellence in Research Award , NJIT. University-wide award for sustained contributions enhancing NJIT's reputation (1 of 5 recipients).
2014	Faculty Seed Grant Initiative Award , NJIT. For proposal, <i>Exploration of Unity 3D as a Physics and Animation Engine for Therapeutic Gaming and Rehabilitation Robotics</i> , PI: Narahara, T., and Co-PI: Foulds, R. (\$10,000) (also in grants).
2010–	Academy Encouragement Award (6 times), International VR Symposium, Forum8 Co., Ltd.
2010	Digital Design Prize , Harvard University, GSD. For <i>Self-organizing Computation</i> as the most creative use of computer graphics in design (annual prize)

Awards and Recognition (selected project images.):



2009	Peter Rice Prize , Harvard University, GSD. For <i>Generative Design Strategies: Software Development</i> , recognizing creativity in design computation. This prize was established in recognition of the ideals and principles of the late eminent engineer Peter Rice.
2009	REAI Research Grant Award , Harvard University. Real Estate Academic Initiative grant for <i>Spontaneous Settlements Simulation</i> .
2009	Penny White Prize , Harvard University, GSD. For <i>Simulating Informal Settlements: Correlation between Landform, Environment, and Habitation in Yemen</i> .
2007–2009	Doctor of Design Grant , Harvard University, GSD.
2006–2007	Merit-Based Full Tuition Fellowship , MIT School of Architecture. <i>Awarded based on a portfolio competition among MIT students.</i>
2005–2006	Stipend Scholarship Award , MIT School of Architecture.
2007	Smart Geometry Workshop / Conference Full Scholarship from Bentley Systems Inc.
1998	AIA Design Excellence Award (Unbuilt category; Design Team). Project designer for Beersheba Chapel Project, led by Adrian Luchini, Sverdrup Facilities, Inc.

Awards won by students under my supervision:

2022	ARCC King Student Medal for Excellence in Architectural + Environmental Design Research Awarded to Zhongming Peter Zhang (undergraduate student, independent study supervised by T.Narahara).
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PATENTS

2020	Narahara, T. and Yamasaki, T. <i>Information Processing Equipment, Information Processing Methods, and Programs (Prediction of Real Estate Living Comfort)</i> . Japan Patent Application No. 2020-155588, filed July 6, 2020; filed globally in 2021. (Status: pending).
2022	Narahara, T. and Zhang, Z. P. <i>Method to Generate Schematic Designs of Multifamily Apartment Buildings with Environmental Performance Estimations Based on User-Defined Graphic Sketches</i> . Provisional patent filed June 2022 (U.S. Serial No. 63/359,015, filed through NJIT IP Committee; not pursued to non-provisional stage).

PUBLICATIONS

BOOK CHAPTERS:

- [1] Narahara, T. (2015). Architecture Meets Gaming and Robotics: Creating Interactive Prototypes and Digital Simulations for Architects. In: Celani, G., Sperling, D. M., & Franco, J. M. S. (Eds.). *Computer-Aided Architectural Design: The Next City—New Technologies and the Future of the Built Environment: 16th International Conference, CAAD Futures 2015, São Paulo, Brazil, July 8-10, 2015. Selected Papers* (Vol. 527). Springer (pp. 474-492), (Peer-reviewed in 3 stages) [\[PDF\]](https://doi.org/10.1007/978-3-662-47386-3_26)
- [2] Narahara, T. (2014). The computer as a tool for creative adaptation: Biologically inspired simulation for architecture and urban design. In Zander, J., & Mosterman, P. (Eds.), *Computation for Humanity: Information Technology to Advance Society* (1st ed., pp. 69-94). CRC Press, Taylor & Francis Group, LLC. (Peer-reviewed in 2 stages) [\[PDF, Website\]](https://doi.org/10.1201/9781315216751)
- [3] Narahara, T. (2010). Crowd simulation and interactive device. In Ota, N. (Ed.), *Programming for Civil Engineers for VR and Structural Analysis* (1st ed., pp. 222-233). Nikkei Business Publications, Inc. (Invited). [[Link1](#), [Link2](#)]
- [4] Narahara, T. (2010). The space ReActor: Walking a synthetic man through architectural space. In S. Chen, S. Li, & J. Lobel (Eds.), *Computational Constructs: Architectural Design, Logic, and Theory* (pp. 71-83). The China Architecture and Building Press. (Peer-reviewed) [\[PDF\]](#)

PUBLICATIONS

JOURNAL ARTICLES:

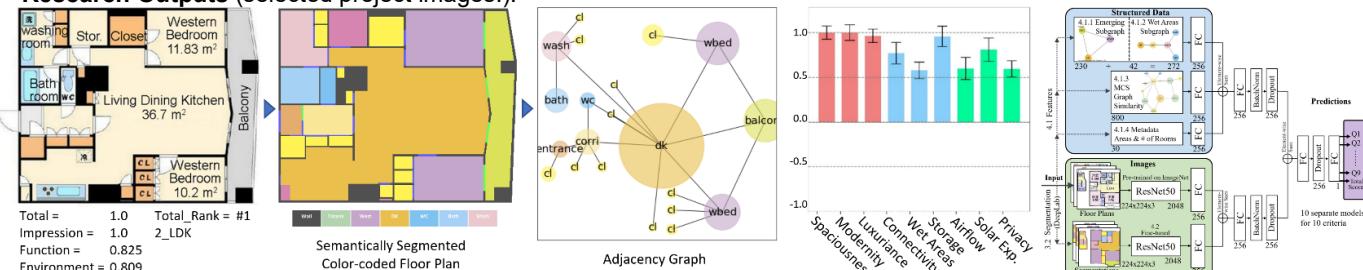
- [1] Jia, M., Liu, A., & Narahara, T. (2024). The Integration of Dual Evaluation and Minimum Spanning Tree Clustering to Support Decision-Making in Territorial Spatial Planning. *Sustainability*, 16(10), 3928. <https://doi.org/10.3390/su16103928>.
- [2] Narahara, T., & Yamasaki, T. (2023). Subjective Functionality and Comfort Prediction for Apartment Floor Plans and Its Application to Intuitive Online Property Searches. *IEEE Transactions on Multimedia (TMM)*. vol. 25, pp. 6729-6742. <https://doi.org/10.1145/3532724.3535602> [[IEEE Xplore](#), [PDF](#), [Video](#)] (Accepted in 2022 Oct.; arXiv:2202.12799 2022 Feb.).
- [3] Narahara, T. (2015). Design exploration through interactive prototypes using sensors and microcontrollers. *Computers & Graphics: An International Journal of Systems & Applications in Computer Graphics*, 50, 25-35. <https://doi.org/10.1016/j.cag.2015.04.008> [[PDF](#), [Video](#)].
- [4] Narahara, T. (2010). Designing for constant change: An adaptable growth model for architecture. *International Journal of Architectural Computing (IJAC)*, 8(1), 30-40. <https://doi.org/10.1260/1478-0771.8.1.29>. [[PDF](#), [Website](#)]

REFEREED CONFERENCE PAPERS:

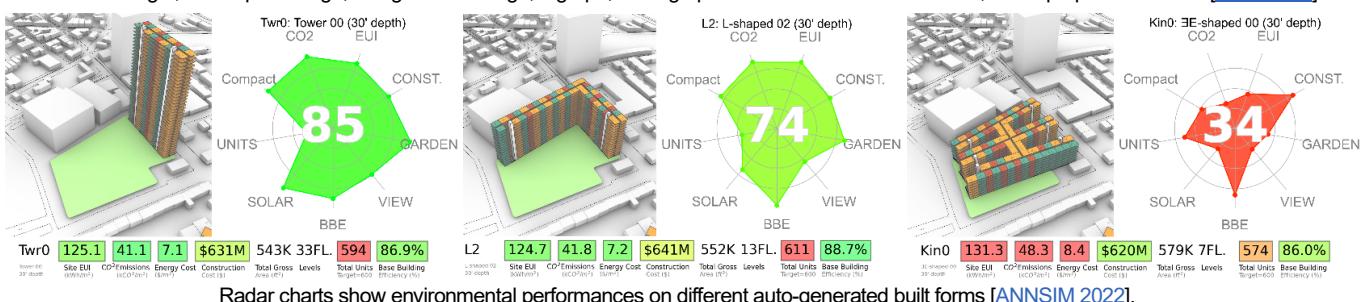
Note: In architectural computing and design, peer-reviewed international conferences are considered as important as journals.

- [1] Narahara, T. (2025). AI-Augmented Architectural Design: Enhancing Creativity and Workflow with Generative Models. In *Proceedings of the Special Interest Group on Computer Graphics and Interactive Techniques Conference Educators Forum (SIGGRAPH 2025)* (pp. 1-2). <https://doi.org/10.1145/3721242.3734016> [[Presentation](#)].
- [2] Jia, M., & Narahara, T. (2025). Examining the Influence of Isovist Geometry and Visual Perception on Spatial Diversity along Street Canyons. *International Conference for The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA)*. [[URL](#), [PDF](#)]
- [3] Zhang, K., Jia, M., & Narahara, T. (2025). Evaluating window-to-wall ratio in generative AI architectural design: Insights from SHAP analysis and predictive modeling. *2025 Annual Modeling and Simulation Conference (ANNSIM)*, 1–12. Madrid, Spain. [[IEEE](#), [PDF](#)]
- [4] Ogura, A., Fukuda, T., Yabuki, N., Narahara, T. (2025) Multi-Story Floor Plan Generation from Building Volume Design Using Graph Neural Networks, *The International Conference ICCBEI 2025 (The Sixth International Conference on Civil and Building Engineering Informatics)*, Hong Kong, Jan 8-11. [[URL](#), [Proceedings](#), [PDF](#)].
- [5] Vincenty, M., Grebler, J., Piza, C., Dalgo, O., & Narahara, T. (2024). Props and Rocks: Passive Haptic Mixed Reality for Navigating Far-off Worlds. In *ACM SIGGRAPH 2024 Immersive Pavilion*. <https://dl.acm.org/doi/10.1145/3641521.3664404> (Also, listed in Exhibitions)
- [6] Narahara, T., Moulaii, M., & Mostafavi, M. (2024). Reimaging Muqarnas: Exploring Generative Design for Innovative Patterns in Iranian-Islamic Architecture. *International Conference for The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA)*. <https://doi.org/10.52842/conf.caadria.2024.2.293> [[PDF](#)].
- [7] Jia, M., & Narahara, T. (2024). Characterizing Residential Building Patterns in High-Density Cities Using Graph Convolutional Neural Networks. *International Conference for The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA)*. <https://doi.org/10.52842/conf.caadria.2024.2.039> [[PDF](#)].
- [8] Jia, M., & Narahara, T. (2023). Spatial Analytics of Housing Prices with User-Generated POI Data: A Case Study in Shenzhen. *Proceedings of the 28th International Conference for The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA)*. <https://doi.org/10.52842/conf.caadria.2023.1.635> [[PDF](#)].
- [9] Riether, G., & Narahara, T. (2023). AI Tools to Synthesize Characteristics of Public Spaces. *Proceedings of the 41st Association for Education and Research in Computer-Aided Architectural Design in Europe (eCAADE) Conference*. [[PDF](#)]. <https://doi.org/10.52842/conf.ecaade.2023.2.831>
- [10] Kitabayashi, R., Narahara, T., & Yamasaki, T. (2022). Graph Neural Network Based Living Comfort Prediction Using Real Estate Floor Plan Images. In *Proceedings of the 4th ACM International Conference on Multimedia in Asia (ACM MM Asia)*. <https://doi.org/10.1145/3551626.3564970> [[PDF](#)].
- [11] Narahara, T. (2022, August). Presenting Architectural Research in VR. *ACM SIGGRAPH 2022 Educator's Forum*. <https://doi.org/10.1145/3532724.3535602> [[PDF](#)].

Research Outputs (selected project images.):



From left to right, a floor plan image, a segmented image, a graph, a bar graph for nine evaluation measures, and a proposed network [TMM 2023].



Radar charts show environmental performances on different auto-generated built forms [ANNSIM 2022].

- [12] Zhang, Z. P., & Narahara, T. (2022). Sketch to Build: An Intuitive Design Platform for Sustainable Housing Complexes. *Annual Modeling and Simulation Conference (ANNSIM), The Symposium on Simulation for Architecture and Urban Design (SimAUD)*, 537-548. [10.23919/ANNSIM55834.2022.9859388](https://doi.org/10.23919/ANNSIM55834.2022.9859388) [IEEE, PDF, Video].
- [13] Narahara, T. (2022, April 11). Kurashiki Viewer: Qualitative Evaluations of Architectural Spaces Inside Virtual Reality. *International Conference for The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA)*, 1(1), 32. <https://doi.org/10.52842/conf.caadria.2022.1.011>. [PDF, Demo].
- [14] Narahara, T., Wang, X., & Yamasaki, T. (2021). Graph-Based Analysis of a Large-scale Attractiveness Dataset for Real Estate Floor Plans. *Proceedings of the Annual Conference of the Japanese Society of Artificial Intelligence (JSAl)*, Volume JSAl2021, 35th. https://doi.org/10.11517/pjsai.JSAI2021.0_4F3GS10n04 [PDF].
- [15] Schnabel, M. A., et al. (2021). Virtual World16 - Virtual Design Collaboration for the Intersection of Academia and Industry. *Proceedings of the 26th CAADRIA Conference - Volume 2*, The Chinese University of Hong Kong and Online, Hong Kong, 29 March - 1 April, 203-212. <https://doi.org/10.52842/conf.caadria.2021.2.203>.
- [16] Narahara, T., Wang, X., & Yamasaki, T. (2020, August 2-5). Attractiveness Prediction for Real Estate Floor Plans using Graph Analysis. *The 23rd Meeting on Image Recognition and Understanding (MIRU)*, virtual online/Japan. (In Japanese, Paper, and Poster) [PDF].
- [17] Narahara, T., Wang, X., & Yamasaki, T. (2020, June 9-12). Construction and Analysis of a Large-scale Attractiveness Dataset for Real Estate Floor Plans based on Users' Attributes. *JSAl 2020: The 34th Annual Conference of the Japanese Society for Artificial Intelligence*, virtual online/Japan. https://doi.org/10.11517/pjsai.JSAI2020.0_2P6GS1305 [PDF].
- [18] Narahara, T., Wang, X., & Yamasaki, T. (2020). A Comparative Study of Data-driven Approaches for the Generation of Floor Plans in Japanese Apartments. *The 10th International Workshop on Image Media Quality and its Applications*. [PDF].
- [19] Narahara, T. (2019, October 15-18). A Preliminary Study on Attractiveness Analysis of Real Estate Floor Plans. *2019 IEEE 8th Global Conference on Consumer Electronics (GCCE)*, Osaka, 454-455. [IEEE Xplore, PDF].
- [20] Narahara, T. (2019, September 9-13). Megastructure: Past, Present, and Future. *Architecture in the Age of the 4th Industrial Revolution, The eCAADE + SIGRADE Conference*, Porto, Portugal, 637-644. [PDF, Video]. <https://doi.org/10.52842/conf.ecaade.2019.2.637>
- [21] Narahara, T., Wang, X., & Yamsaki, T. (2019, August 29-30). What is the key to attracting people to apartments? Construction and analysis of an attractiveness dataset for real estate floor plans. *Technical Committee on Media Experience and Virtual Environment (MVE), The Institute of Electronics, Information and Communication Engineers (IEICE)*, Nagoya, Japan. (**MVE Award for the best paper at the 2019 conference**) (**2020 HC Award for the annual best paper in the MVE area**). (In Japanese). [\[Website\]](http://www.ieice.org/mve2019/).
- [22] Narahara, T., & Yamsaki, T. (2019, July 29 - August 1). Creation and analysis of a dataset for attractiveness of real estate floorplans based on subjective evaluations. *The 22nd Meeting on Image Recognition and Understanding (MIRU)*, Osaka, Japan. (In Japanese, Paper, and Poster). [PDF].

- [23] Narahara, T. (2019, September 3-6). Home as a sacred place in an offline environment. *VR and MR Technologies in Architecture and Urban Design, The Annual Convention for the Architectural Institute of Japan (AIJ)*, Kanazawa, Japan.
- [24] Narahara, T., & Yamsaki, T. (2019, March 14-15). Reenactments of game-play styles in VR through personal bots: Speculative visions for applications of attractiveness computing. *Technical Committee on Media Experience and Virtual Environment (MVE), The Institute of Electronics, Information and Communication Engineers (IEICE)*, Kagoshima, Japan.
- [25] Narahara, T., & Kobayashi, Y. (2018, December 4-7). Personalizing homemade bots with plug-and-play AI for STEAM education. *SIGGRAPH Asia 2018 Technical Brief*, Tokyo, Japan. <https://doi.org/10.1145/3283254.3283270> [PDF, Video].
- [26] Narahara, T. (2018, August 12-16). Creating the Unreal: Speculative visions for future living structures. *SIGGRAPH 2018 Talks (The 45th International Conference and Exhibition on Computer Graphics and Interactive Techniques)*, Vancouver, Canada. <https://doi.org/10.1145/3214745.3214799> [PDF, Video].
- [27] Narahara, T. (2017, September 20-22). Collective construction modeling and machine learning: Potential for architectural design. *Proceedings of the 35th Association for Education and Research in Computer Architectural Design in Europe (eCAADE) Conference*, Sapienza University of Rome, Rome, Italy, 341-348. [PDF] <https://doi.org/10.52842/conf.ecaade.2017.2.341>
- [28] Narahara, T., Abbruzzese, K., & Foulds, R. (2015). Haptic collaboration: Biomedical engineering meets digital design. *SIGGRAPH 2015 Talks*, Los Angeles, CA. <https://doi.org/10.1145/2785585.2792520> [PDF].
- [29] Narahara, T., & Kobayashi, Y. (2015). Crowd Mapper: Projection-based interactive pedestrian agents for collective design in architecture. *Proceedings of the 33rd Association for Education and Research in Computer Aided Architectural Design in Europe (eCAADE) Conference*, The Vienna University of Technology, Vienna, Austria, 191-200. [PDF, Website]. <https://doi.org/10.52842/conf.ecaade.2015.1.191>
- [30] Narahara, T. (2015). A tool kit for architects to create interactive prototypes and digital simulations. *Proceedings of the 16th International Computer Aided Architectural Design Futures (CAAD Futures) Conference*, Sao Paulo, Brazil, 464.
- [31] Narahara, T. (2014, April 7-11). Teaching interactivity: Introducing design students to sensors and microcontrollers. *The 35th Annual Conference of the European Association for Computer Graphics (EUROGRAPHICS 2014)*, Strasbourg, France, 25-32. (Best Education Paper/Presentation).
- [32] Narahara, T. (2014, August 10-14). Exploring board game design using digital technologies. *SIGGRAPH 2014 Talks*, Vancouver, Canada. <https://doi.org/10.1145/2619195.2656294>
- [33] Narahara, T. (2013). A generative approach to robotic fabrication. In R. Stouffs & S. Sariyildiz (Eds.), *Proceedings of the 31st eCAADE Conference*, Delft University of Technology, Delft, Holland, 1, 673-678. [PDF, Website]. <https://doi.org/10.52842/conf.ecaade.2013.1.673>
- [34] Narahara, T. (2013). Physical prototypes for interactive building technology. In J. R. Dermody & A. Zarzycki (Eds.), *Proceedings of the 4th BTES Conference*, Bristol, Rhode Island. (The featured project also appeared in IJAC 2010).
- [35] Narahara, T. (2013). Co-evolutionary design with robotic devices. *Proceedings of The Association for Computer-Aided Architectural Design Research in Asia (CAADRIA)*, National University of Singapore, Singapore, May 15-18. (The featured project also appeared in eCAADE 2013).
- [36] Narahara, T. (2012, March 1-4). Self-organizing strategy: An adaptable growth model for architecture. *ACSA 100th Annual Meeting (The Association of Collegiate Schools of Architecture): "Digital Aptitudes,"* Host School: Massachusetts Institute of Technology, Boston, MA, USA.
- [37] Narahara, T. (2011, October 28-30). A conceptual framework for applications of self-organizing logics in urban design. *2011 PUARL International Conference: "Generative Process, Patterns, and the Urban Challenge,"* The Portland Urban Architecture Research Laboratory, University of Oregon, Portland, Oregon.
- [38] Narahara, T. (2011, November 13-14). Generative applications inspired by emergent behavior. *Proceedings of the International Symposium on Algorithmic Design for Architecture and Urban Design, ALGODE TOKYO 2011*, Tokyo, Japan.
- [39] Narahara, T. (2011, March 10-12). Beyond quantitative simulations: Local control strategy using architectural components. *Proceedings of the ACADIA 2011 Regional, Parametricism (SPC)*, University of Nebraska Lincoln, Lincoln, Nebraska, USA.
- [40] Narahara, T. (2010). Form, evolution, and agents: New approaches in spatial design. *The 33rd Symposium on Computer Technology of Information, Systems, and Applications* organized by Architectural Institute of Japan (AIJ) (In Japanese)
- [41] Kobayashi, Y., Terzidis, K., Narahara, T., et al. (2009, June 17-19). World8: International working group for new virtual reality applications in architecture. *Proceedings of the CAAD Future09 Conference, "Joining languages, cultures and visions,"* Montreal, Canada, 547-556.
- [42] Narahara, T. (2009, September 16-19). Bottom-up design inspired by evolutionary dynamics. *Proceedings of eCAADE 2009: (Education and Research in Computer Aided Architectural Design in Europe), Computation: The New Realm of Architectural Design*, Istanbul, Turkey, 391-398. <https://doi.org/10.52842/conf.ecaade.2009.391>

Research Outputs (selected project images.):



- [43] Narahara, T. (2008, October). New methodologies in architectural design inspired by self-organization. *Proceedings of the Association for Computer-Aided Design in Architecture (ACADIA), Silicon + Skin: Biological Processes and Computation*, Minneapolis, USA, 324-331. <https://doi.org/10.52842/conf.acadia.2008.324>
- [44] Narahara, T. (2007, November 15-17). Enactment software: Spatial designs using agent-based models. *Proceedings of AGENT 2007: Conference on Complex Interaction and Social Emergence*, Argonne National Laboratory (sponsor) and Northwestern University (host), Norris Center, Evanston.
- [45] Griffith, K., & Narahara, T. (2007, October 7-9). Standardized algorithms and design descriptions for “one-off” designs. *Proceedings of MCPC 2007: World Conference on Mass Customization & Personalization*, Massachusetts Institute of Technology (MIT), Cambridge.
- [46] Narahara, T. (2007, September 26-29). The space re-actor: Walking a synthetic man through architectural space. *Proceedings of the 25th Education and Research in Computer Aided Architectural Design in Europe (eCAADE) Conference*, Frankfurt, Germany, 195-202. <https://doi.org/10.52842/conf.ecaade.2007.195>
- [47] Narahara, T., & Terzidis, K. (2006, October 12-15). Multiple-constraint genetic algorithm in housing design. *Proceedings of the Association for Computer-Aided Design in Architecture (ACADIA) International Conference, Synthetic Landscapes, Digital Exchange*, Louisville, USA, 418-425. <https://doi.org/10.52842/conf.acadia.2006.418>. [PDF].
- [48] Narahara, T., & Terzidis, K. (2006, November 21-23). Optimal distribution of architecture programs with multiple-constraint genetic algorithm. *Proceedings of the International Conference, SIGRADI 2006, Post Digital*, Santiago, Chile, 293-303.

Articles About / Mention:

- 2013 **AD Magazine** (05/2013): “Design Robotics – New Strategies for Material System Research” in “*Inside Smartgeometry: Expanding the Architectural Possibilities of Computational Design*” in Brady Peters and Terri Peters (Editors), AD 05/2013, John Wiley & Sons. pp. 258 – 259. (May 2013).
(Design and research work was introduced in the article with figures)
- 2011 **GSD Platform 4: Narahara, T.** “Self-Organizing Computation: A Framework for Generative Approaches in Architectural Design,” in GSD Platform 4, Howeler, E. (Editor), New York, New York: Actor, 2011. pp. 76-78. (Publication of Design and Research Work)
- 2010 **AD magazine** (04/2010): “The Return of the Future” by Martin Bechthold in “*New Structuralism: Design, Engineering and Architectural Technologies*” in Oxman, R. (Editor), AD 04/2010, John Wiley & Sons. pp.116 - 121. (April 2010). (Design and research work was introduced in the article with figures)
- 2009, 2010 **Tank Books: A View on Harvard GSD Vol 1 & Vol 2**, Tank Form Ltd. London, UK.
2009. pp.441-442. & 2010 pp.426-427. (Publication of Design and Research Work)
- 2008 **GSD 08 Platform**, Kubo, M. (Editor), New York, New York: Actor, 2008.
(Publication of Design and Research Work)

Translations:

- 2014 (Translation of a Book) **Behaviour. Security. Culture (BeSeCu): Human behavior in emergencies and disasters: A cross-cultural investigation**, Silke Schmidt and Edwin R. Galea, Forum8 Publishing Co., Ltd., Tokyo, Japan, November 2014 (in Japanese, ISBN: 978-3-89967-867-3) Supervised translation and revisions for Pabst Science Publishers book by Prof. Galea, University of Greenwich.
- 2001 (Translator of an Article) **A+U Magazine: Translation of the article by Richard Gluckman, FAIA.** “Fashionable Collaborations,” A+U (Architecture and Urbanism), No.375, December 2001, pp.34-39.

EXHIBITIONS

- 2025 Dec.–Jan. **The 10th Bi-City Biennale of Urbanism\Architecture**, Shenzhen, China. Computer-animated short film.
- 2025 Oct.– **Architizer Vision Award Online Exhibition** (Special Mention, Experimental Category) [[Link](#)].
- 2025 Oct. **Architecture in Perspective (AIP) 39** Professional Competition, Exhibition of awarded artwork, hosted by American Society of Architectural Illustrators (ASAI) conference in Tokyo. Also, online [[Link](#), [Poster](#)].
- 2025 Sep.–Oct. **JARA Architectural Visualization Exhibition 2025: Global Exchange ASA139 & JARA**, the Japan Architectural Renderers Association (JARA), Waseda Gallery, Tokyo, Sep. 24– Oct. 8, 2025 [[Link](#)].
- 2025 Jun.–Aug. **SURREALITY Art Exhibition**, the Center for Metaverse and Computational Creativity (MC2), Hong Kong University of Science and Technology (Open-Call Exhibition, Reviewed and selected) [[Link](#)]
- 2025 Feb.–Mar. **Open-Call Exhibition, Shoto Museum of Art, Tokyo** (Digital Art: **Received Excellence Award**; Awarded as 1 of 2 recipients selected from over 107 submissions. Reviewed by expert jury members.) [[Link](#)]
- 2024 Aug. **ACM SIGGRAPH 2024 Immersive Pavilion**, Props and Rocks: Passive Haptic Mixed Reality for Navigating Far-off Worlds, Vincenty, M., Grebler, J., Piza, C., Dalgo, O., & Narahara, T. (Also, listed in Publications) <https://dl.acm.org/doi/10.1145/3641521.3664404> (1 of 15 accepted exhibitors from 170 submissions)
- 2014 Apr. **Dynamic Surfaces as Building Envelopes**, Student Project Exhibit, International Workshop and Exhibition with Ron, R., and Vital, R. at Shenkar College of Engineering and Design, Tel Aviv, Israel. (March 23, 2014). (<http://dynamicsurfaces.wix.com/dynamic-surfaces#>)
- 2013 May **Group pottery exhibition**, UMDNJ/Newark Museum Arts Workshop, Newark, NJ. Group exhibition curated by John Watts (Exhibitor, May–Aug 2013).
- Feb. **The 5th International Exhibition on Media Art and Information Aesthetics (MAIA)** Narahara, T., Santiago, M., and Hallowell, S. (Exhibitors), Media+ Life: Sensorial Collaboration, hosted by the Faculty of Arts, Tokyo Polytechnic University, and Japan Society of Image Arts and Sciences (JASIAS) in Tokyo, Japan. (February 4-6, 2013)
- 2010 Sep. **Tokyo Game Show 2010**, September 16-17, Makuhari Messe, Chiba, Japan
Exhibited an interactive device for crowd simulation in a VR environment with Forum8 Co., Ltd.
- Jun. **3D & Virtual Reality Expo (IVR)**, organized by Reed Exhibitions Japan Ltd.
Exhibited an interactive device for crowd simulation in a VR environment with Forum8 Co., Ltd.
Tokyo International Exhibition Center (Tokyo Big Sight), Tokyo, Japan, June 23-25, 2010
- 2008 Mar. **Harvard GSD Computational Design Exhibition**
with K. Terzidis, J. Park, and D. Rosenberg (Exhibition of individual works, Swarm-scape Interactive artwork).

Exhibitions of Student Work:

- 2012–2023 **SIGGRAPH: Faculty Submitted Student Work Exhibit**, The SIGGRAPH Education Committee. Coursework by my students has been accepted and digitally exhibited (Double-curated):
- 2015 Jan. **NASAD** (National Association of Schools of Art and Design) Exhibition: (January 19 – 23, 2015)
Exhibitions of students' projects and posters of faculty work from the School of Art + Design, NJIT.
- 2012 **Synergis Engineering Design Solution**, Online Student Showcase – coursework by my student, B. Sims, was presented. (April 1, 2012). (URL: <http://www.synergis.com/industries/education/student-showcase>)

Other Periodicals Published:

- 2013 – 2014 **Articles for Up and Coming, vol.99 – 107**. [[Link](#)].
"Report on international education in architectural computing" in "Up and Coming," (Quarterly Japanese architectural software magazine), Oota Natsuko (Ed.), Forum8 Publishing Co., Ltd., Tokyo.
- 2011 **Exploring New Trends: Information-oriented Strategy and Technologies in Civil Engineering, Construction, Transportation and Environment**. Online article (VR Symposium 2011, Tokyo: Talk Summary) [[Link](#)].
- 2010 **Kyoryo & Toshi Project (Bridge & Cities)**, pp. 52-54, vol. 46, No.4, 2010, Title: "Development of a Linking System for VR and Interactive Devices." (Article: VR Symposium 2010, Tokyo: Talk Summary).
- 2009 **Kyoryo & Toshi Project (Bridge & Cities)**, pp. 52-54, vol. 45, No.2, 2009, Title: "Use of Motion Capture Files on Agent-based Models for Realistic Simulation." (Article: VR Symposium 2009: Talk Summary).
- 2008 **Kyoryo & Toshi Project (Bridge & Cities)**, pp. 52-54, vol. 44, No.1, 2008, Title: "Spatial Design using Agent-based Models." (Article: VR Symposium 2008, Tokyo: Talk Summary).
- 2005 **Publication of Museo Picasso Malaga project monograph**
Collaborated with the graphic design firm, 2X4 Inc. Worked on drawings, renderings, and layouts.
- 2000 **Spatial-Lounge**, A short online article, A+U magazine (<http://www.spatial-lounge.com>; Not available anymore)

PROPOSALS AND GRANTS

2022–2025	Principal Investigator (PI): <i>An Intuitive Design Platform for Sustainable Multifamily Residential Buildings</i> <ul style="list-style-type: none">▪ PI: T. Narahara; Entrepreneurial Lead (EL): P. Z. Zhang; Industry Mentor (IM): P. Portelli▪ National Science Foundation (NSF) Innovation Corps – National Innovation Network Teams Program (I-Corps™ Teams)▪ Award: \$50,000
2021	PI: <i>Creation and Analysis of a Large-scale Dataset of Real Estate Floor Plans in US Metropolitan Areas</i> <ul style="list-style-type: none">▪ NJIT Faculty Research Seed Grant, May 2021▪ Award: \$5,000 PI: <i>Creation of a Large-scale Dataset of Real Estate Floor Plans in US Metropolitan Areas</i> <ul style="list-style-type: none">▪ HCAD (Hillier College of Architecture and Design) Faculty Research Seed Grant, Mar. 2021▪ Award: \$5,000 Academic Lead: <i>A Generative Design Platform with Intuitive Multiuser Interfaces for Architects</i> <ul style="list-style-type: none">▪ PI: M. Ehrlich; Entrepreneurial Lead: Z. M. Zhang▪ NSF I-Corps Site Mini-Grant, Feb. 2021▪ Award: \$3,000
2020	Academic Lead: <i>Feel and Experience Architecture: A Neuroscience Approach to Design</i> <ul style="list-style-type: none">▪ PI: M. Ehrlich; Entrepreneurial Lead: C. Gallo▪ NSF I-Corps Site Mini-Grant, Feb. 2020▪ Award: \$2,000
2019–2020	Academic Lead: <i>Data-driven Approach in Residential Floor Plan Generation</i> <ul style="list-style-type: none">▪ PI: M. Ehrlich; Co-PI: J. Sheft; Entrepreneurial Lead: A. Parker▪ NSF I-Corps Site Mini-Grant, Sep. 2019▪ Award: \$2,000
2016–2018	Co-PI: <i>MRI – Development of an Open Architecture and Scalable Exoskeleton for Research on the Restoration of Ambulation of Persons with Disabilities</i> <ul style="list-style-type: none">▪ PI: R. Foulds; Co-PIs: S. Adamovich, T. Narahara, L. Lu, C. Wang▪ NSF Major Research Instrumentation (MRI) Program, Sep. 2016▪ Award: \$225,500 Academic Lead: <i>Interactive Content Generation Using UAV Photogrammetry and Gaming Technologies</i> <ul style="list-style-type: none">▪ PI: M. Ehrlich; Entrepreneurial Lead: W. Busarello▪ NSF I-Corps Site Mini-Grant, Sep. 2016▪ Award: \$1,500
2016	Co-PI: <i>School of Art + Design Software Grant</i> <ul style="list-style-type: none">▪ Sponsored by Unity Technologies▪ PI: G. Goldman; Co-PIs: T. Narahara, A. E. Wendell; Supporting: M. Kehoe▪ Award: \$3,500
2015–2020	Investigator (Faculty Team): <i>NJIT and the Kessler Foundation Rehabilitation Engineering Research Center (RERC) on Wearable Robots</i> <ul style="list-style-type: none">▪ PI: R. Foulds▪ National Institute on Disability, Independent Living, and Rehabilitation Research, U.S. Department of Health and Human Services▪ Award: \$5M over 5 years
2015–2017	Co-Investigator: <i>Innovation and Translation Studio for Biomechatronic Devices in Neurorehabilitation</i> <ul style="list-style-type: none">▪ PI: R. A. Foulds▪ Funded by VentureWell▪ Award: \$19,500
2015	Academic Lead: <i>Turning Physical into Digital: Photogrammetry-based 3D Model Generation</i> <ul style="list-style-type: none">▪ PI: M. Ehrlich; Co-PI: J. Sheft; Entrepreneurial Lead: A. Dudley▪ NSF I-Corps Site Mini-Grant, Sep. 2015▪ Award: \$2,500
2014–2015	PI: <i>Exploration of Unity 3D as a Physics and Animation Engine for Therapeutic Gaming and Rehabilitation Robotics</i> <ul style="list-style-type: none">▪ PI: T. Narahara; Co-PI: R. Foulds▪ NJIT Faculty Seed Grant Initiative, Nov. 2014▪ Award: \$10,000
2014–2016	Investigator (Technical Faculty VIS Team): <i>NJ MarketShift: A New Jersey Proposal for Community Economic Adjustment Assistance for Advanced Planning and Economic Diversification (CFDA 12.614)</i> <ul style="list-style-type: none">▪ PI: T. V. Franklin; Co-PIs: W. J. Marshall III, D. H. Sebastian▪ U.S. Department of Defense, Office of Economic Adjustment, Jul. 2014▪ Award: \$5.6M over 18 months

PRESENTATIONS

INVITED GUEST LECTURES / KEYNOTE LECTURES:

- 2025 06.26 **SURREALITY – Surreal Art Exhibition Opening Ceremony and Forum**, The Hong Kong University of Science and Technology (Guangzhou) — Invited keynote speaker (1 of 5 international speakers).
- 2024 09.04 **Forum on Information Technology (FIT) 2024, Top Conference Session**, co-sponsored by the Institute of Electronics, Information and Communication Engineers and Information Processing Society of Japan, Hiroshima Institute of Technology, Japan (Invited to present research featured in *IEEE TMM2023*)
- 2007–2024 **International VR Symposium, Design Festival**, Tokyo, Japan, event hosted by Forum8 co., ltd. (Invited lecture; annual recurring engagements; awarded the **Academy Encouragement Award** 6 times)
- 2009–2025 **International VR Summer Workshop**, various locations, sponsored by Forum8 co., ltd. (Invited lecture and workshop; annual recurring engagements)
- 2023 11.07 **World16 Symposium** at Cambridge Innovation Center (CIC) Tokyo (invited lecture).
- 2022 09.01 **Leir Research Institute (LRI) Conference 2022, Disruptive Technologies, Regulations, & Business: Implications in the Real Estate and Property Tech Industry** (invited lecture; online)
- 2021 02.15 **The 4th Advanced Technology Education Program Review Committee in the field of architecture and community development**, "Prospects for architecture, AI field, and human resource development using advanced technology," sponsored by the **Ministry of Education, Culture, Sports, Science and Technology commissioned business in Japan** (Keynote lecture; online)
2020. 12.11 **The 4th Industry-Academia Collaboration Seminar Symposium "How to Implement Attractive Commercial Real Estate and Town Development with AI"** hosted by **Geomarketing** Co., Ltd. (Keynote; online)
- 2020 10.30 **Architectural Institute of Japan (AIJ) Symposium on New Development of VR/MR Technology in Architecture and Urban Design**, "Data-driven approaches in architecture," online/Tokyo (Keynote lecture)
- 2019 03.27 *Make it digital: A constructive experimentation between Italy and Japan*, Seminar sponsored by the **University of Camerino** (UNICAM) in Ascoli, Italy. (Keynote lecture).
2019. 03.25 *Small-scale architecture through digital fabrication*, Seminar sponsored by the **University of Naples Federico II**, (Keynote lecture).
- 2019 02.01 Division of Sustainable Energy and Environmental Engineering, Graduate School of Engineering, **Osaka University** (Guest lecture invited by Prof. Tomohiro Fukuda).
- 2019 01.31 Life Science and Living Environment Laboratory, **Osaka City University** (Guest lecture invited by Prof. Atsushi Takizawa).
- 2018 11.07 **Institute of Technology in Architecture (ITA), ETH Zurich** (Invited guest lecture).
- 2018 11.22 **PLP Symposium: Future Research Directions**, PLP/Architecture, London (Invited keynote lecture).
- 2018 11.13 Department of Information and Communication Engineering, Graduate School of Information Science and Technology, **The University of Tokyo** (Guest lecture invited by Prof. Toshihiko Yamasaki)
- 2018 06.16 **The 9th International VR Symposium Summer Workshop** in Wellington, NZ (Invited)
- 2017 08.22 **Construction Bionics 2017: Bio-inspired Concepts for the Built Environment**, School of Civil and Environmental Engineering, **Technische Universität Dresden**, Germany (URL: [Link](#)) (Keynote lecture)
- 2017 08.05 **The Urban Design Committee at the Japan Institute of Architects (JIA)**, Tokyo, Japan (Invited lecture)
- 2015 11.14 **AQS (The International Symposium on Algorithmic Design)**, Tokyo, Japan (Keynote lecture & Panelist)
- 2014 04.01 *Visiting Artist Lecture Series, Virginia Polytechnic Institute and State University*, School of Visual Arts, Collage of Architecture and Urban Studies, Blacksburg, Virginia. (Keynote lecture)
- 2014 03.23 **Shenkar Collage of Engineering and Design**, Louvre Auditorium, Tel Aviv, Israel (Keynote lecture)
- 2013 06.05 Faculty of Urban Life Studies, **Tokyo City University**, (Guest lecture invited by Prof. Makoto Watanabe)
- 2010 12.10 **The 33rd Symposium on Computer Technology of Information, Systems, and Applications**
Organized by Architectural Institute of Japan (AIJ) on December 10, Tokyo (Guest Speaker)
- 2010 07.15 **Wyss Institute for Biologically Inspired Engineering**, Harvard University.
Title: "Self-organizing Computation: A Generative Approach for Architectural Design". (Invited Lecture)
- 2009 11.13 **Keio University**, SFC, Japan (Lecture; Invited by Prof. Yasushi Ikeda)
- 2008 02.13 **The MIT Design and Computation Alumni Symposium, Recent Work**, Cambridge, MIT (Invited lecture)
- 2007 08.12 **Architectural Institute of Japan (AIJ)**, Tokyo, Japan (Keynote lecture)
Presented at Sub-committee on Design Science, Research Committee on Information Systems Technology.
- 2005 07.18 **ARUP Japan, Tokyo** (Invited guest lecture)
Title: "The Entry Structure project," lectured on the project from Gluckman Mayner Architects (GMA).

REFERRED CONFERENCE PRESENTATIONS:

- 2025 03.28 **CAADRIA** (The Association for Computer-Aided Architectural Design Research in Asia), the University of Tokyo, (Peer-reviewed; Presenter / Co-Author)
- 2024 08.01 **SIGGRAPH 2024 Immersive Pavilion**, Denver, CO. (1 of the 4 selected teams to present at the main stage from 15 accepted IM exhibitions from over 170 submissions; Peer-reviewed; Co-Presenter/Author)
- 2023 03.21 **CAADRIA** (Peer-reviewed; Co-Presenter / Co-Author; online)
- 2023 01.27 **ACM SOIREE** (SIGGRAPH EDU Symposium on Innovation, Research, and Experiences in Education) (Peer-reviewed (abstract); Presenter; online)
- 2022 08.08 **SIGGRAPH 2022** Educator's Forum, Vancouver, Canada. (Peer-reviewed; Presenter, Author; online)
- 2022 07.18 **ANNSIM 2022** (Annual Modeling and Simulation Conference) with Zhongming Peter Zhang, San Diego, CA. (Peer-reviewed; Co-Presenter & Author)
- 2022 05.13 **ACM SOIREE** (Peer-reviewed (abstract); Presenter; online)
- 2022 04.11 **CAADRIA** (The Association for Computer-Aided Architectural Design Research in Asia) (Peer-reviewed; Presenter & Author; online)
- 2020 08.03 **MIRU** (The 23rd Meeting on Image Recognition and Understanding), "Attractiveness Prediction for Real Estate Floor Plans using Graph Analysis," virtual (online) (Presenter & Author)
- 2020 06.10 **JSAI 2020**: The 34th Annual Conference of the Japanese Society for Artificial Intelligence, 2020. "Construction and Analysis of a Large-scale Attractiveness Dataset for Real Estate Floor Plans based on Users' Attributes," virtual (online) (Presenter & Author)
2018. 12.15 **SIGGRAPH Asia 2018 Technical Brief**, Tokyo (Peer-reviewed; Presenter & Author).
- 2018 08.14 **SIGGRAPH 2018 Talks**, Vancouver (Peer-reviewed; Presenter & Author).
2017. 09.21 **eCAADe** (the 35th association for education and research in computer-aided architectural design in Europe) Sapienza University of Rome, Roma, Italy (Peer-reviewed; Presenter & Author)
- 2015 09.18 **eCAADe**, the Vienna University of Technology, Austria (Peer-reviewed; Presenter & Author)
- 2015 08.13 **SIGGRAPH 2015 Talks** (The 42nd International Conference and Exhibition on Computer Graphics and Interactive Techniques), Los Angeles, California (Peer-reviewed; Presenter & Author)
- 2015 07.10 **CAAD Futures** (the 16th International Computer Aided Architectural Design Futures 2015 Conference), Sao Paulo, Brazil, July 6-10, 2015. (Peer-reviewed; Presenter & Author)
- 2014 08.12 **SIGGRAPH 2014 Talks**, Vancouver, Canada, "Exploring Board Game Design Using Digital Technologies." (Peer-reviewed; Presenter & Author)
- 2014 04.09 **EUROGRAPHICS 2014** (the 35th annual conference of the European Association for Computer Graphics) "Teaching Interactivity: Introducing Design Students to Sensors and Microcontrollers." Strasbourg, France. (Peer-reviewed) (**Selected as a Best Education Paper Presentation**)
2013. 09.19 **eCAADe**, "A Generative Approach to Robotic Fabrication," Delft University of Technology, Delft, The Netherlands. (Peer-reviewed; Presenter & Author)
- 2013 06.13 **BTES** (the 4th Building Technology Educators' Society Conference) Roger Williams University, Bristol, Rhode Island. "Physical Prototypes for Building Technology," (Peer-reviewed; Presenter & Author)
- 2013 05.15 **CAADRIA**, "Adaptive Growth using Robotic Fabrication," National University of Singapore, Singapore (Peer-reviewed; Presenter & Author)
- 2012 03.03 **ACSA 100th Annual Meeting**, Boston MA (Peer-reviewed; Presenter & Author)
- 2011 11.14 **ALGODE 2011**, Tokyo, Japan (Peer-reviewed; Presenter & Author)
- 2011 10.30 **PUARL** (The Portland Urban Architecture Research Laboratory) International Conference, Portland, OR, (Peer-reviewed; Presenter/Author)
- 2011 03.12 **ACADIA 2011 Regional**, University of Nebraska Lincoln, Nebraska (Peer-reviewed; Presenter/Author)
- 2008 10.15 **ACADIA Silicon+Skin: Biological Processes and Computation**, Minneapolis (Peer-reviewed; Presenter/Author)
- 2007 11.17 **AGENT 2007**: Conference on Complex Interaction and Social Emergence, **Argonne National Laboratory** (sponsor) and Northwestern University (host), Evanston (Peer-reviewed; Presenter, Author)
- 2007 10.09 **MCPC** (World Conference on Mass Customization & Personalization), MIT Cambridge (Presented with Griffith, K.; Peer-reviewed; Co-Presenter, Co-Author))
- 2007 09.18 **eCAADe**, Frankfurt, Germany (Peer-reviewed; Presenter, Author)
- 2006 11.23 **SIGraDi**, Post Digital, Santiago, Chile, 21-23 November 2006 (Peer-reviewed; Presenter, Author)
- 2006 10.15 **ACADIA**, Synthetic Landscapes Digital Exchange, Louisville, USA, (Peer-reviewed; Presenter, Author)

Guest Lectures in University Courses and Research Laboratories:

- 2024 02.21 **NJIT** Prof. Branko Kolarevic's AI course (invited lecture)
- 2023 04.10 **MIT** Guest lecture for Prof. Takehiko Nagakura's course (invited lecture; online)
- 2022 03.01 **Rutgers/NJIT**, Guest lecture at Ph.D. Colloquium (guest lecture; online)
- 2020 10.19 **The University of Florida**, online (Guest lecture invited by Prof. Ruth Ron in her class).
- 2018 10.02 Chair for Digital Building Technologies, **ETH Zurich** (Guest lecture invited by Prof. Benjamin Dillenburger)
- 2018 09.20 Chair for Computer Aided Architectural Design (CAAD), **ETH Zurich** (Invited lecture)
- 2012 05.15 **MIT: Computational Design Lab**: Reinventing BIM (Guest lecture invited by Prof. Takehiko Nagakura)
- 2010 02.22 **MIT: Design Scripting** (Guest lecture invited by Prof. Takehiko Nagakura in his class)
- 2008 05.07 **MIT: Design Scripting** (Guest lecture invited by Prof. Takehiko Nagakura in his class)
- 2006 05.12 **MIT: Computational Geometry for Spatial and Design Reasoning** (Guest lecture Invited by Prof. Denise Shelden in his class) Title: "The Entry Structure: 2-way cable-net-shell structure, work from GMA."

Invited Lectures (NJIT and Regional Venues):

- 2015 02.23 **NJIT**: Third Annual Faculty Research Symposium, Campus Center, NJIT, February 23, 2015.
(local venue; Selected to present; Digital poster presentation)
- 2014 04.04 **NJIT**: *What is the future of Gaming?* (symposium), sponsored by the **National Society of Black Engineers (NSBE)** NJIT Chapter, NJIT Campus Center, Newark, New Jersey (local venue; Invited Presenter/Panelist)
- 2013 02.14 **NJIT**: Presentation at the Meeting with Deputy Mayor of Barcelona (local venue; invited lecture)
- 2013 04.17 **NJIT**: Board of Visitors Meeting, Title, "*The role of the Academy vs. the role of the industry,*" April 17, 2013
(local venue; Selected to give a lecture)
- 2013 06.17 Kakogawa Higashi Senior High School, Title: *The First Step to Becoming a Member of a Global Society*, Fukuda, T. (Moderator), Hyogo, Japan (local venue; Guest lecture invited by Prof. Fukuda, Osaka Univ.)
- 2013 03.06 **NJIT**: Distributed Intelligence conference, Title: *The Computer as a Tool for Creative Adaptation*, March 6
(local venue; Selected to give a lecture)
- 2012 02.22 **NJIT**: Think Pieces (local venue; Selected as one of five faculty members to represent)

WORKSHOPS PROPOSED OR CO-ORGANIZED

- 2009–2025 **International VR Summer Workshops** (Instructor / Presenter) sponsored by Forum8 Co., Ltd., and chaired by Prof. Y. Kobayashi from ASU (Annual; various international locations).
- 2014 Mar. **Dynamic Surfaces as Building Envelopes**, International Workshop and Exhibition, (Invited) co-organized with R. Ron, and R. Vital, Shenkar College of Engineering and Design, Tel Aviv, Israel, March 17-23. [[Link](#)]
- 2013 May **Open Robotics Systems for Adaptive Buildings**, the CAADRIA 2013 conference With A. Zarzycki, (NJIT), and J. W. Park, (Soongsil University), in Singapore in May 2013 (peer-reviewed).
- 2009 Mar **Flat to Form, Workshop at Toyohashi University of Technology** (Instructor) Department of Architecture and Civil Engineering, Toyohashi University of Technology, Japan, with Prof. Martin Bechthold (Harvard GSD). Tutorials on programming and parametric modeling.
- 2007 Jul **MIT-Keio University Workshop in Okuike, Shiga, Japan** (Teaching Assistant) Assisted Prof. Shun Kanda (MIT) and Prof. Hiroto Kobayashi (Keio)

RESEARCH AND DESIGN SUPERVISION

GRADUATE STUDENTS:

Kaiheng Zhang (NJIT)	Ph.D. in Urban Systems, <u>Dissertation Chair</u> <i>Integrating Waste Heat and Carbon Dioxide from Building Facilities with Algae Cultivation</i>	2023–present
Muxin Jia (NJIT)	Ph.D. in Urban Systems, <u>Dissertation Chair</u> Visibility analysis for hotspot urban areas using social media data	2021–present
Oyke Alcin (NJIT)	M.S. in Architecture, <u>Independent Study Adviser</u> (Collaborated on AI Museum Competition, Non-A: Honorable Mention)	2024 Spring
Jeongseo Lee (NJIT)	Ph.D. in Urban Systems, <u>Dissertation Committee Member</u> Scoring Criteria for Optimal Integration of Personalized Environmental Control Systems	2023–present
Minkyeong Park (NJIT)	Ph.D. in Urban Systems, <u>Dissertation Committee Member</u> Assessing a Level of Detail Framework for Residential Building Energy Modeling	2023–present
Yunhao Zhang (NJIT)	Ph.D. in Information Technology, <u>Dissertation Committee Member</u> <i>Human motion generation/recognition/evaluation in 3D space</i>	2021–2024
Hadi Ghahremannezhad (NJIT)	Ph.D. in Computer Science, <u>Dissertation Committee Member</u> <i>Advanced Traffic Video Analytics for Robust Traffic Accident Detection</i>	2019–2023
Shi Hang (NJIT)	Ph.D. in Computer Science, <u>Dissertation Committee Member</u> <i>A Statistical Foreground Detection Method for Video Analysis</i>	2020–2021
Ajit Puthenputh-ussery (NJIT)	Ph.D. in Computer Science, <u>Dissertation Committee Member</u> <i>Novel Image Descriptors and Learning Methods for Image Classification Applications</i>	2016–2018
Qingfeng Liu (NJIT)	Ph.D. in Computer Science, <u>Dissertation Committee Member</u> <i>Investigation of New Learning Methods for Visual Recognition</i>	2016–2017
Kevin Abbruzesse (NJIT)	Ph.D. in Biomedical Engineering, <u>Dissertation Committee Member</u> <i>Assessment of a Hand Exoskeleton on Proximal and Distal Training in Virtual Environments for Robot Mediated Upper Extremity Rehabilitation</i> (related to NSF MRI, \$225.5K)	2014–2016
Fernando Garay (NJIT)	M.S. in Biomedical Engineering, <u>MS Thesis Committee Member</u> <i>Adaptable Virtual Reality 3-D Pinball Videogame for Interactive Upper Extremity Rehabilitation</i>	2014–2015
Andreas Wilde (TU Dresden)	Diploma in Architecture, <u>External Dissertation Committee Member</u> <i>Application of Video Game Elements for Massive Urban Citizen Co-Design (M.Arch equivalent)</i>	2017–2018
Tarek Al-Hariri (NJIT)	M.ARCH. <u>Independent Study Adviser</u> <i>Architectural Installation using Physical Computing with Arduino</i>	2012

UNDERGRADUATE STUDENTS (EXCERPTS):

Zhongming Peter Zhang	B.ARCH (NSF I-Corps Site Mini-Grant) <u>Undergrad Research Advisor</u> , 2020 – 2022 (This led to the funded NSF National Innovation Corps Teams Grant , \$50K, 2022)
Craig Gallo (NJIT)	B.A. in Digital Design (NSF I-Corps Site Mini-Grant) <u>Undergrad Research Advisor</u> , 2020
Anthony Parker (NJIT)	B.A. in Digital Design (NSF I-Corps Site Mini-Grant) <u>Undergrad Research Advisor</u> , 2019
Tulio Squarcio (NJIT)	B.S. in Industrial Design, <u>Independent Study Advisor</u> , 2017–2018 <i>Exploration in Sensory Technology for Product Design</i>
Michael Centeno (NJIT)	B.S. in Arch., <u>Mentor for NCARB AXP hours</u> , 2017–2018 <i>NCARB AXP Design Competition</i>
John Ferns (NJIT)	B.Arch., <u>Dissertation Primary Advisor</u> , 2016 <i>Integrating the Digital and the Physical (B.Arch. Dissertation)</i>
William Busarello (NJIT)	B.A. in Digital Design (NSF I-Corps Site Mini-Grant) <u>Undergrad Research Advisor</u> , 2016 <i>Interactive Content Generations using UAV Photogrammetry and Gaming Technologies</i>
Amos Dudley (NJIT)	B.A. in Digital Design (NSF I-Corps Site Mini-Grant) <u>Undergrad Research Advisor</u> , 2015 <i>Turning Physical into Digital: Photogrammetry-based 3-D Model Generation and Re-Materialization.</i>
Mark Sanna (NJIT)	B.A. in Digital Design, <u>Undergrad Research Advisor</u> , 2015, <i>Exploring the impact of virtual reality using 360-degree video</i> (Finalist for the Undergraduate Research Seed Grant Proposal)

SERVICE

TO PROFESSIONAL SOCIETIES:

- 2026 **Interactive Art Co-Chair, ACM Multimedia 2026**, Rio de Janeiro, Brazil (invited; scheduled).
- 2025 **Unified Jury Member, Session Chair, ACM SIGGRAPH 2025**, Vancouver, Canada (invited).
- 2025 **Session Chair, ANNSIM 2025** (Annual Modeling and Simulation Conference), Madrid, Spain (invited).
- 2025– **Editorial Board Member**, International Journal of Architectural Computing (**IJAC**), Sage Publications (Invited)
- 2024–2025 **Proceedings Editor (Paper Selecting Committee) / Session Chair, CAADRIA 2025** (The Association for Computer-Aided Architectural Design Research in Asia, Architectural Informatics, Mar. 22-29, 2025 (invited).
- 2022 **Session Chair, ANNSIM 2022** (Annual Modeling and Simulation Conference), San Diego, CA. (invited)
- 2019–2020 **Special Issue Co-Guest Editor, Journal: Technologies**, EISSN 2227-7080, Published by MDPI AG, Basel, Switzerland, Special Issue Title: Computer-Aided Architectural Design (w/ Tomohiro Fukuda, Osaka Univ.)
- 2013–2025 **Juror / Executive Committee Member, Cloud Programming World Cup (CPWC)**, Tokyo
Annually appointed as a judge for CPWC, an international competition to foster software development across various domains and promote programming skills among engineering and design students.
- 2015 **Session Chair, CAAD Futures** (the 16th International Computer Aided Architectural Design Futures 2015 Conference), Sao Paulo, Brazil, July 6-10, 2015. (Appointed)
- 2013–2014 **Organizing Member / Juror, ALGODEQ (ALGORithmic Design Quest)**, Tokyo, 2014
Served as an organizer and juror for an international programming competition on algorithmic design in architecture. Chair: Prof. Makoto Watanabe and sponsored by Takenaka Co., Ltd. (Nov 7, 2013–Nov 3, 2014).
- 2010–2011 **International Relationship Committee member / Session Chair, ALGODE TOKYO**
The International Symposium on Algorithmic Design for Architecture and Urban Design, Tokyo, 2011. *Work included the selection of keynote speakers from abroad. Chair: Yasushi Ikeda (KEIO), (Link)*
- 2009 **Adviser, Build Live Tokyo 2009 II Design Competition**
Collaborated with Forum8, T. Fukuda, and K. Terzidis. *Project awarded the Engineering Award from the International Alliance for Interoperability Japan Association (IAI) for BIM-based housing complex design.*
- 2008, 2009 **Organizing Member / Session Chair, The International Conference on Critical Digital**, Harvard University, Cambridge, MA, *What Matter(s)?*, Chair: Kostas Terzidis (GSD); (April 2008 & April 2009).

INSTITUTIONAL SERVICE (To NJIT):

- 2022–2025 Member, **Faculty Senate**, NJIT.
- 2019–2024 Chair (2022–2024), Member ('19 – '21), **Sabbatical Committee**, NJIT.
- 2023–present Member, **Faculty Research Advisory Board**, NJIT.
- Member, **Faculty Success 2030 Strategic Planning Subcommittee**, NJIT.
- 2017–2018 Member, **Faculty Senate Committee on Faculty Rights and Responsibilities (CFRR)**, NJIT.
- 2012–2018 Member, **Teaching, Learning, and Technology (TLT)** Committee, NJIT.
- 2017 Member, Vice Provost for Undergraduate Studies Search Committee, NJIT.
- To Hillier College of Architecture and Design (HCAD):**
- 2016–present Member, **HCAD Promotion and Tenure Committee**.
- 2024–present Member, HCAD Research Committee, NJIT
- 2024–present Member, HCAD Ph.D. Education Subcommittee, NJIT.
- 2024–present Member, HCAD Research Awards Subcommittee, NJIT.
- 2011–2025 Chair ('14, '19, '21, & '25) and Member (repeated 12+), **HCAD Faculty Search Committee**, NJIT.
- 2018–present Chair ('24), Member, HCAD Fabrication Committee, NJIT
- 2017 Member, HCAD Dean Search Committee, NJIT.
- 2015– Faculty Judge, The Dana Knox Student Research Showcase, NJIT (Participated several times)
- 2012–2017 **Founder / Coordinator, GameFest, HCAD (2012–2016)**
Initiated the annual November GameFest, showcasing student-designed games employing technology-driven design processes. Highlighted event outcomes were featured in a peer-reviewed talk at SIGGRAPH 2015.
- 2010–2018 **Program Organizing Member / Presenter, Global Game Jam (GGJ) at NJIT**
Presented the theme, supervised student projects, co-organized the event, and coordinated facilities for the 48-hour game development event. In 2012, contributed to the NJIT team by developing games in C#.
- 2010– **Faculty Advisor, Undergraduate Open House, HCAD (Quarterly)**
Displayed interactive projects from design studios and courses, incorporating sensor technologies and microcontrollers, to prospective students and parents, providing insights and answering inquiries.

PUBLIC SERVICE:

- 2015 Jul **Chair, NJIT Organizing Committee, Greater Newark Mini Maker Faire**, Newark.
Coordinated exhibitions and workshops for 3D printing, AR, and immersive VR using head-mounted displays.
- 2015 Jul **Workshop Organizer/ Instructor, Girls Who Code, Newark.**
For high-school students for Girls Who Code, a nonprofit empowering women in computer science.
- 2014 Apr. **Panelist, Symposium sponsored by National Society of Black Engineers (NSBE)**, Newark.
Invited presenter/panelist discussing the Future of Gaming.

REVIEWER

Journal Articles:

- 2025– *International Journal of Architectural Computing (IJAC)*, Sage Publications (**Editorial Board Member**)
- 2025 *Information Geography*, Elsevier.
- 2016, 2023 *Automation in Construction*, Elsevier.
- 2019 *Technologies, Special Issue Title: Computer-Aided Architectural Design* (**Co-guest Editor**)
- 2018 *Computers and Electronics in Agriculture*, Elsevier.
- 2017– *Technology | Architecture + Design (TAD)*, Routledge, Taylor & Francis
- 2016– *Computers & Graphics*, Elsevier.
- 2024 *Digital Applications in Archaeology and Cultural Heritage*, Elsevier.
- 2016 *Multimedia Tools and Applications*, Springer.
- 2014– *Transactions of the Architectural Institute of Japan (JIA)*.
- 2013, 2019– *The Artificial Intelligence for Engineering Design, Analysis and Manufacturing Journal (AIEDAM)*, Cambridge University Press.

Conference Papers:

- 2016, 19, 25 *SIGGRAPH*, Reviewer for General Submissions & Posters. ([Unified Jury, 2025](#))
- 2015–present CAADRIA (Association for Computer-Aided Architectural Design Research in Asia) (**Proceedings editor, '25**)
- 2017–2025 ACADIA (The Association for Computer-Aided Design in Architecture)
- '18, '22, '24, '25 ANNSIM: Symposium on Simulation for Architecture and Urban Design (SimAUD)
- '21, '22, '23, '24 The Symposium on Computer Technology of Information, Systems and Applications, Japan Institute of Architects (JIA)
- 2020, 2021 ICME 2021 (IEEE International Conference on Multimedia and Expo)
- 2017– eCAADe (Education and Research in Computer-Aided Architectural Design in Europe) (**Multiple times**)
- 2011– ACSA (Association of Collegiate Schools of Architecture) (2011, 2012, 2013, 2015)
- 2012 SIGraDi (The Iberoamerican Society of Digital Graphics) (2012)
- 2011 ACADIA Regional (2011)
- 2010 ALGODE (The International Symposium on Algorithmic Design for Architecture and Urban Design) (2010)
- 2008, 2009 The International Conference on Critical Digital, Harvard University, Cambridge, MA, (2008, 2009)

Juror for Competitions & Studio Finals (excerpts):

- 2023 May MIT M.S. Thesis Final Review (Guest Critic)
- 2013–present *Cloud Programming World Cup (CPWC)*: International student competition for software development on VR for urban & architectural design (Juror / Executive Committee Member, Appointed annually)
- 2019 Dec. Rensselaer Polytechnic Institute (RPI) CASE (Guest Critic, hereinafter the same, **Multiple times**)
- 2017–2022 Pratt Institute, Final Design Studio/ Undergraduate Thesis Review. (**Multiple times**)
- 2015 Dec. Princeton University, Prof. Axel Killian, Final Design Studio Review.
- 2012 May MIT 4.S52: Computational Design Lab: Reinventing BIM, Prof. Nagakura, T., Final Review.
- 2010 May Harvard, Master of Design Thesis, Final Review.
- 2008 Dec. Harvard 6317: CAD/CAM: Application in Architecture, Prof. Bechthold, M., Final Review.
- 2008 July Keio University, Tokyo, Japan, Prof. Hiroto Kobayashi, Final Review.
- 1998 Sep. Tokyo Metropolitan University, School of Architecture, Tokyo, Japan, Studio Final Review.

Promotion & Tenure Reviews:

- 2022 Ad Hoc Reviewer (Promotion & Tenure), Drexel University, PA. (Aug.–Oct. 2022).
- 2018 Ad Hoc Reviewer (Promotion), Drexel University, PA. (Jul.–Sep. 2018).

CONSULTING

Technical Adviser, **SHIMIZU Corporation** and **Lightblue Technology Co. Ltd.**, (2020 – 2021)
Joint project with IT and General Construction (GC) companies, the University of Tokyo, and NJIT

Technical Adviser, **At Home Lab Co., Ltd.**, Tokyo, Japan. (May 2019 - Present).
Regular periodical meetings (once a month) with a leading Real Estate company in Japan

Technical Adviser, **MD Inc.** (formerly Geomarketing Co., Ltd.), Tokyo, Japan. (May 2019 - Present).
Regular periodical meetings (once a month) with a consulting company for shopping mall developers in Japan

Technical Adviser through workshops, **Forum 8 Co., Ltd.**, Tokyo, Japan. (January 2010 - Present).
Japanese civil engineering, urban planning, VR, and game engine software company

Advisory Board Member, **NeuroTechR3, Inc.**, Newark, NJ, USA. (May 2021 - 2022).
Biomedical Device/Digital Health company for ML-driven rehabilitation technologies for people with brain injury.

MEMBERSHIPS AND AFFILIATIONS

2011–	ACM SIGGRAPH	(Special Interest Group on Graphics and Interactive Techniques)
2019–	IEEE	(Institute of Electrical and Electronics Engineers)
2019–	JSAI	(Japan Society of Artificial Intelligence)
2019–	IEICE	(The Institute of Electronics, Information and Communication Engineers)
2014	EUROGRAPHICS	(European Association for Computer Graphics)
2013–	SOAT	(State of the Art Technologies in Expression Association; Promoter/originator)
2013–	eCAADe	(Education and Research in Computer-Aided Architectural Design in Europe)
2012–	CAADRIA	(The Association for Computer-Aided Architectural Design Research in Asia)
2011–	ACADIA	(Association for Computer-Aided Design in Architecture)

SKILLS

Languages: English (fluent), Japanese (native),

Computers: Python, ML modules (Keras/TensorFlow, PyTorch, PyTorchGeometric, NetworkX), C#, JavaScript.

Media Skills: Applications: Unity3D, Unreal Engine 5, Rhino/Grasshopper, Revit, AutoCAD, Adobe Creative Suite.
AI Tools: Stable Diffusion WebUI, ControlNet, ComfyUI, Verus, LookX, Midjourney, Runway ML.
Robotics: 6-Axis Robots by ABB, Rapid-Codes, Arduino, Raspberry Pi, ESP32.
Fabrication: G-Codes, CNC machining techniques, and tool path generations.
Prototyping: 3-D Printers (UltiMaker; FormLab), Laser Cutters, OMAX Waterjets, Vacuum Formers.

Relevant Courses Completed:

<u>Harvard</u>	Math153:	Evolutionary Dynamics (Evolutionary Game Theory)	Prof. Martin Nowak
	CS226:	Biologically inspired Distributed and Multi-Agent Systems	Prof. Radhika Nagpal
	Workshop	Kilo-Bots: Workshop on Swarm Robotics (Jointly offered by Harvard CS and NJIT Biological Sciences)	Prof. Radhika Nagpal
	ES252:	Micro / Nano Robotics	Prof. Robert J. Wood

<u>MIT/Media Lab</u>	MAS 961:	How to Make Something that Can Make Almost Anything	Prof. Neil Gershenfeld
	1.124:	Foundations of Software Engineering (C# language)	Prof. John R. Williams
	1.001:	Computers & Engineering Problem Solving (Java language)	Prof. Steven Lehman
	6.270:	Autonomous Robot Design (Finalist for the competition)	
	6.281:	Logistics and Transportation Planning Methods (Operations Research: Queuing/Network Theory)	Prof. Richard Larson Prof. Amedeo Odoni

<u>Waseda Univ.</u>	B.S.in Math:	Differentiable Manifolds and Twistor Space	Prof. Toshiaki Kori
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Travels: Travelled throughout Australia, Austria, Belgium, Brazil, Cambodia, Canada, Chile, China, Czech, Denmark, Egypt, England, Estonia, Finland, France, Germany, Guatemala, Greece, Holland, India, Indonesia, Israel, Italy, Japan, Laos, Malaysia, Mexico, Morocco, Norway, Peru, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, Turkey, and Vietnam studying their architecture and cultures.