

# Mojgan Rezakhani



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## Education

- **2020-2024:** **Ph.D. of Architecture (Student)**  
Department of **Convergence Engineering of Future city and Global Smart City**.  
University: **Sungkyunkwan University (SKKU)** – Suwon, South Korea.  
Cumulative GPA: 4.21 of 4.50
- **2011-2014:** **M.Sc. of Architecture**  
Department of Architecture, **Azad University, Science and Research Branch, Tehran, Iran**  
**Thesis:** Deployable structural systems regarding space and place migration  
Cumulative GPA: 17.59 of 20
- **2005-2010:** **B.Sc. in Architecture**  
Department of Architecture, **University of Tabriz, Tabriz, Iran**  
**Final Project:** The design of the memorable voices (Acoustic review in the design of showrooms)  
Cumulative GPA: 16.19 of 20

## Publication

### Smart City – Computer Vision – Robotic

- Mojgan Rezakhani, Sung-Ah Kim. **Genetic Algorithm-Driven Optimization of Pattern for Parametric Facade Design Based on Support Position Data to Increase Visual Quality**. Buildings Journal 2024.
- Mojgan Rezakhani, Sung-Ah Kim. **Integrating ROS and APS into computer vision. (under review)**
- Mojgan Rezakhani, Sung Ah Kim. **Utilizing Web Applications for Developing Digital Twin: Case study urban tunnel with kinetic roof**. In Proceedings of eCAADe Austria 2023.
- Mojgan Rezakhani, Sung Ah Kim. **Digital Twins in Motion: Exploiting APS for Dynamic Ventilation in Tunnel**. ICCC Conference, Japan, 2023.
- Seongjun Kim, Seung won Yang, Mojgan Rezakhani, Sung Ah Kim. **Extending IFC to Incorporate Information of Kinetic Envelop Systems. (under review)**
- Mojgan Rezakhani, Sung Ah Kim. **A review of Application Generative Adversarial Network (GAN) in Architecture**. Computational design and Engineering, 2021 Winter Conference (26th).

## Research Interest

### • Computer Vision and Data Analysis:

- leveraging computer vision for infrastructure maintenance.

### • Robotics and Automation:

- the integration of robotics in urban environments for enhanced efficiency and sustainability.

### • Digital architecture:

- Algorithmic architecture
- Computational geometry
- Parametric designing
- Deployable structure

### • Data Science Applications:

- predicting architectural design and managing city resources.

## ***Honors and Awards***

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- **Design Competition:** Fourth place, for Shams Tabriz's Mausoleum in Khoy, Iran, 2010.
- **Member of Architecture:** in system Organization of Karaj, IRAN.
- **Editorial board:** DESIGNER Architectural Magazine, NIARESH Engineering Magazine.
- **Co-Organizer:** at the first conference on interior design and decoration. Tabriz, April 2008.

## ***Hobbies***

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- **Technical Hobbies:** Building and programming robotics projects, Developing computer vision applications.
- **Creative Hobbies:** Digital art and design, 3D modeling.
- **Physical Activities:** Ballet (advanced), Gymnastics (intermediate), Hiking in the mountains.
- **Reading:** Technical literature in data science, smart cities, and digital architecture; English novels and magazines.

## ***Language***

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- **Persian** (native)
- **English** (fluent)  
IELTS (Academic)
- **German** (familiar)  
Austrian Cultural Forum (OKF): A2-2
- **Arabic** (familiar)

- Mojgan Rezakhani, Sung Ah Kim. Using Virtual Reality to Evaluate the Impact of Dispersion of Elements on Kinetic Facade. 20th International Conference on Construction Applications of Virtual Reality (CONVR 2020), 2020.

## **Urban Design**

- Morteza Faramarz and Mojgan Rezakhani. Assessment of urban and suburban cultural challenges. First national conference on marginalization. Azad University of Karaj, Iran, 2011.
- Morteza Faramarz and Mojgan Rezakhani. Check functionality and identity of the city of Karaj and its modern application in marginalization. First national conference on marginalization. Azad University of Karaj, Iran, 2011.
- Mojgan Rezakhani and Morteza Faramarz. The role of pedestrians in increasing the social capital. International conference on the city, pedestrian life. Tehran, Iran, 2011

## **BIM & Energy Management**

- Mojgan Rezakhani, Mohammadjavad Mahdavinejad and Peiman pilechiha. Light in Nightscape and Perception of Security among Pedestrians, Case Study: Tehran. Advanced Engineering Forum, Vol. 29, pp. 46-56, 2018
- Mojgan Rezakhani and Morteza Faramarz. Method energy management and energy savings in buildings. Melerd Publication, (ISBN= 978-600-405-159-1), 2016.
- Mojgan Rezakhani and Mohammadjavad Mahdavinejad. Reuse of traditional gardens for better environmental sustainability. 5th health and environment conference in the Middle East, Dubai, UAE, 2014.
- Mohammadjavad Mahdavinejad and Mojgan Rezakhani. Environmental consideration of contemporary High-Tech architectural projects regarding to adoption of recombinant materials. International conference on biological, civil and environmental engineering, Dubai, UAE, 2014.
- Morteza Faramarz and Mojgan Rezakhani. Strategic assessment of objectives in urban planning and energy management. National conference on Civil, Architecture, Urban Planning and Energy Management. Ardestan, Iran, 2011.

## ***Computer and Programming Skill***

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- **Cad & Modeling:** Auto cad, 3D Max, Rhinoceros, Sketch up, Grasshopper, Revit.
- **Building Environmental Analysis:** Autodesk Ecotec, Design-Builder.
- **General:** MS Office, Adobe Photoshop, Adobe Illustrator
- **Project Management:** Microsoft Project (MSP).
- **Programming:** Python use in Grasshopper, Java, C++ (for robotics and computer vision), ROS, Gazebo Simulator.
  - Python (<https://www.sololearn.com/Certificate/1073-10880497/pdf/>)
  - Computer Vision Basics (<https://coursera.org/verify/NHFVYEAZNZQM>)
  - OpenSpace, AI-powered analytics (<https://verify.skilljar.com/c/sx58e6ua7zw8>)

## References

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[https://scholar.google.com/citations?user=V\\_L90KcAAAAJ&hl=en&oi=ao](https://scholar.google.com/citations?user=V_L90KcAAAAJ&hl=en&oi=ao)

## Conferences and Workshop

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- Build and train your own 3D AI-Generative design tool, eCAADe conference, Graz university of technology, Austria 2023.
- KIBIM Annual Conference, Seoul, South Korea, 2020.
- New approaches in architecture and urban planning with emphasis on energy consumption reduction, Association of new technologies in architecture Conference at Tarbiat Modarres University, Tehran, Iran, 2015.
- Computing Architecture Conference, College of Fine Arts, Tehran University, 2015.
- Sustainable design buildings with energy savings, School of Architecture and Urban Planning Conference, Tehran Art University, 2015.
- New approaches in the design with zero carbon Conference, School of Architecture and Urban Planning, Tehran Art University, 2015.
- Modular design and manufacture of intelligent mobile facades, Responsive facades membranes Conference, School of Architecture and Urban Planning, Tehran Art University, 2014.
- Design-Builder simulation workshop. Tehran, 8 to 10 September 2014.
- 7th conference on Global Intelligence: Architectural Forms in Motion. Tehran, 24 June 2013.
- professional seminar of urban spaces and street theater; Tarbiat Modarres University, Tehran, Iran.

## Work Experiences

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- **2020 -2023:** **Ph.D. Candidate** - Design Informatics Group (DIG) Lab
- **2018-2019:** **Managing Associate at responsive Design.**  
Ardaena: Integrated Network of Professionals (international) (Iran)  
<http://www.ardaena.com/team-member/>
- **2017-2018:** **Architect / Assist in field of Persian Geometric pattern**  
Private institute (ketab araie irani), Tehran (Iran)
- **2012-2017:** **Architect / Environmental Designer**  
The Idea of The Alborz Plan Co, Karaj (Iran)
- **2011-2013:** **Editorial**  
DESIGNER Architectural Magazine & NIARESH Engineering Magazine, Tehran
- **2011-2013:** **Architect and Interior Designer**  
At Payest Shar o Maan Co, Tehran (Iran)
- **2010-2011:** **Drafter**  
At Naghsh Piraavash Co, Tehran (Iran)