

# Hossein Kamyab

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Hossein Kamyab is a teacher and computational designer with a strong interest in structural design and its contribution to sustainable architecture. He holds a Master of Architecture degree from Tarbiat Modares University of Tehran. For his master's thesis, he conducted in-depth research on the structural reconstruction of muqarnas—an ornamental element of Islamic architecture—using a structural design methodology known as graphic statics. This research focused on converting previously ornamental elements into structurally efficient ones. It aimed to regenerate these elements for efficient material use and align them with modern sustainability standards while preserving their historical significance. Supervised by Dr. Damon Bolhassani from the City College of New York, this research was published and presented at the IASS 2022 conference.

Hossein's interest in complex geometries and their real-world applications led him to study architecture for his bachelor's degree, an interest he further pursued during his master's by exploring computational design methods. For his Ph.D., he plans to advance his research by investigating the application of machine learning and computer vision in architecture and structural design to contribute to a more sustainable future. Since 2019, Hossein has shared his passion for architecture, structures, and sustainability as a registered teacher in vocational high schools under the Iranian Ministry of Education.

## Education

2020 - 2022	<a href="#">Tarbiat Modares University (TMU)</a> Master of Architecture (M.Arch.)	GPA : 18.95 / 20 or 4.0/4.0	Tehran,Iran
2015 - 2019	<a href="#">Shahid Rajae Teacher Training University (SRTTU)</a> Bachelor of Architecture (B,Arch)	GPA : 17.63 / 20 or 3.64/ 4.0	Tehran,Iran
2011 - 2015	Ebnesina Magnet High school Diploma in Mathematics & Physics	GPA : 17.36 / 20	Shiraz ,Iran

## Academic Experience

2023- 2024	Allameh khafri Vocational High school Architectural Design, Architectural drafting	Shiraz ,Iran
2022- 2023	Kharazmi Vocational High school Architectural drafting, AutoCAD for architects, construction	Shiraz ,Iran
2021- 2022	Farahbakhsh Vocational High school Architectural Design , Architectural drafting, AutoCAD for architects, construction Details	Tehran,Iran
2019- 2021	Allameh khafri Vocational High school Architectural Design ,structural drafting, Building Construction & Material, Reinforced Concrete & Steel Structures	Shiraz ,Iran

## Publications

H. Kamyab, M. Yeganeh, and M. bolhassani, “Structural muqarnas: Reconstructing muqarnas using graphic statics”, IASS/APCS 2022

Z. Shirzadnia ,H. Kamyab and A.Zarkesh “Assessment of timber gridshells in the study of new structures,” Third National Conference on New Researches in Engineering and Applied Sciences, 2021, Iran, Borujerd.

A.Farajolahi ,A.Vaezi, H.Kamyab et al , “Industrial Architecture Of Iran”,farajolahi publication, 2021,ISBN: 978-622-96814-8-0

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## Events and Workshops

Playing Models : Artificial Intelligence, Architecture, Storytelling will take 2024  
[The 3rd Edition of Playing Models | hybrid conference| ETH Zürich](#)

Bio-Integrated Modular Free Form Structures Intelligent Design 2023  
[DigitalFUTURES | Youtube Stream| Online](#)

Instructors: Selda Pourali / Ahmed Sattar / Behnaz Khaksar / Mentor: Mahdi Fard

Presentation of published paper 2022  
[IASS conference | hybrid conference| Beijing, China](#)

Presenting the paper called “structural muqarnas: reconstruction of muqarnas using graphic statics

Form-Finding Staircases With COMPAS CEM 2021

[Acadia | Structural design | Online Workshop](#)

Instructors: Rafael Pastrana , Isabel Moreira de Oliveira , Patrick Ole Ohlbrock, Pierluigi D’Acunto

PRINT in PRINT: Nesting Robotic 3D Printing 2021

[Digital Futures | Fabrication | Online Workshop](#)

Instructors: Negar Kalantar, AliReza Borhani, Mehdi Farahbakhsh

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## Awards and Honors

Addimsion offer with a 20,000\$ scholarship for M.S in architecture 2024  
at University of Pennsylvania’s Weitzman School of Design

Addimsion offer with a 17,000\$ scholarship for M.S in architecture 2024  
at City College of New York’s Spitzer School of Architecture

Master Graduation with A grade in the third university of Iran 2022

Ranked 32<sup>th</sup> / 6000 - Iranian University Entrance Exam for Master’s Degree 2020

3% within 222500 - Iranian University Entrance Exam for Bachelor’s Degree top 2014

## digital Skills

Programming languages:	<i>Python</i>
Neural Networks:	<i>Artificial Neural Networks (ANNs), Convolutional Neural Networks (CNNs)</i>
Libraries :	<i>PyTorch, Numpy, Pandas, Matplotlib, Scikit-Learn, OpenCV</i>
Modeling:	<i>Rhino &amp; Grasshopper, Revit , Sketch up , AutoCAD</i>
Rhino & GHPlugin:	<i>HAL Robotics Framework, PolyFrame, CEM, Karamba, Octopus, Ladybug (butterfly), Eddy3D, RhinoVAULT</i>
Graphic Design Tools:	<i>InDesign, Photoshop, Illustrator</i>

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## References

### [Dr. Damon Bolhassani](#)

Assistant Professor

Spitzer School of Architecture, The City College of New York  
141 Convent Avenue, New York, New York, 10031

Email: [mbolhassani@ccny.cuny.edu](mailto:mbolhassani@ccny.cuny.edu)

### [Dr. Mansour Yeganeh](#)

Associate Professor

Department of Architecture, Architectural Design, Modeling, and Fabrication lab, Tarbiat  
Modares University, Tehran, Iran

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### [Dr. Mehdi Ghiai](#)

Assistant Professor

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