

## ALEXANDROS HARIDIS

Office Address Harvard University, Cambridge, MA 02138, USA  
Science and Engineering Complex, LL1.214

Phone +1 (617) 495-3000

Email haridis@seas.harvard.edu

URL <https://haridis.me>

## EDUCATION

- 2022 Ph.D. in Architecture: Design and Computation  
Department of Architecture, Massachusetts Institute of Technology, Cambridge, USA.  
Presidential Fellow
- 2017 Master of Science in Computer Science  
Department of Electrical Engineering and Computer Science  
Massachusetts Institute of Technology, Cambridge, USA
- 2017 Master of Science in Architecture Studies: Design and Computation  
Department of Architecture, Massachusetts Institute of Technology, Cambridge, USA
- 2014 Ptychion of Architect Engineer (M.Arch.)  
School of Architecture Aristotle University of Thessaloniki, Greece

## ACADEMIC EMPLOYMENT

- 2023–Present Harvard University, Cambridge, MA, USA  
Lecturer (full-time), John A. Paulson School of Engineering and Applied Sciences and the  
Graduate School of Design
- 2017–2022 Massachusetts Institute of Technology, Cambridge, MA, USA  
PhD Researcher, MIT Department of Architecture, Computation Group
- 2014–2020 Massachusetts Institute of Technology, Cambridge, MA, USA  
Graduate Teaching Assistant, MIT School of Architecture and Planning
- 2016–2018 Massachusetts Institute of Technology, Cambridge, MA, USA  
Research Associate, Computer Science and Artificial Intelligence Lab (CSAIL)
- 05–12/2015 Massachusetts Institute of Technology, Cambridge, MA, USA  
Research Assistant, Digital Structures Group, Department of Architecture

## PUBLICATIONS

### Peer-Reviewed Journal Articles

*Under Review*

- 2025 "The rules to see: value judgement and calculation in 20<sup>th</sup>-century aesthetic systems in  
architecture and the applied arts." In: *Leonardo* (The MIT Press).

- 2025 "Kant's *free play* and aesthetic judgement in architecture: a new interpretation as visual calculating." In: *Nexus Network Journal: Architecture and Mathematics*.  
*Published*
- 2022 "SHREC'21: Quantifying shape complexity," M. Arslan\*, A. Haridis\*, P. L. Rosin, S. Tari, et al. *Computers & Graphics* 102: 144—153.
- 2022 "Analysis of shape grammars: continuity of rules," A. Haridis and G. Stiny. *Environment and Planning B: Urban Analytics and City Science* 49: 1929—1948.
- 2020 "Structure from appearance: topology with shapes, without points," *Journal of Mathematics and the Arts* 14: 199—238.
- 2019 "The topology of shapes made with points," *Environment and Planning B: Urban Analytics and City Science* 47: 1279—1288.

### Peer-Reviewed Conference Papers and Abstracts

#### *Published*

- 2025 "JONES-19: A cultural image dataset based on *The Grammar of Ornament*," L. Pham, S. Shieber D. Alvarez-Melis and A. Haridis. In: *Proceedings of the Twenty-Second ACM Conference - Culture and Computer Science (KUI'25)*, September 25-26, Berlin, Germany.
- 2025 "Description changes in architecture: identity rules in shape grammars and multiplicity in design datasets," N. Moustroufis and A. Haridis. In: *Proceedings of the Fifteenth International Conference Nexus 2025: Relationship Between Architecture and Mathematics*, June 3–6, Vicenza, Italy.
- 2025 "Evaluation of architectural synthesis using generative AI: A case study on Palladio's architecture" J. Huang and A. Haridis. In: *Proceedings of Thirtieth Conference Computer-Aided Arch. Design Research in Asia (CAADRIA'25)*, March 22–29, Tokyo, Japan.
- 2024 "Formulating the generative: history, logic and status of computing designs in a latent space." In: *Proceedings of the Forty-Second Conference on Education & Research in Computer-Aided Architectural Design in Europe (eCAADe'24)*, September 11–13, Nicosia, Cyprus.
- 2019 "Notes for an improvisational specification of design spaces." In: *Proceedings of the Eighteenth International Conference on Design Computing and Cognition (DDC'18)*, July 2–4, Politecnico di Milano, Lecco, Italy.
- 2018 "Some issues concerning the use of design space formalisms in creative domains." In: *Proceedings of the Fifth International Conf. on Design Creativity (ICDC'18)*, University of Bath, Bath, UK.
- 2016 "Talking about architectural compositions: pilot study on description styles and envisioning," A. Haridis and P. H. Winston. In: Posters of the *Sixteenth International Conference on Design Computing and Cognition (DCC'16)*, July 27, 2016, Northwestern University, Chicago, IL, USA.

### Book Chapters

- 2024 "Arrangements containing shapes: mathematical features and their use in visual calculating." To appear in: SD Kotsopoulos (Ed.) *Shape Computation: Fifty Years, 1972-2022 (Mathematics and the Built Environment, Vol 9)*. Springer Nature / Birkhäuser. [Open Access](#).

### Textbook Project

- 2018-2021 *Introduction to Artificial Intelligence at MIT: 6.034 Teaching Notes*. MIT Department of Electrical Engineering and Computer Science. [*Internal distribution*]

### Invited Talks and Presentations

- 2025 Massachusetts Institute of Technology, Department of Architecture. Invited talk in *4.580 Inquiry into Design and Computation*. Cambridge, MA, USA.

- 2025 metaLAB (at) Harvard, Berkman Klein Center, Harvard University. Cambridge, MA, USA.
- 2024 National Technical University of Athens, School of Architecture. Special Topics in the History and Theory of Architecture (8<sup>th</sup> sem.). Athens, Greece. *Online*.
- 2024 Oxford University, Digital Humanities at Oxford Summer School, Oxford, UK.
- 2024 New York Institute of Technology, School of Architecture & Design. New York City, NY, USA.
- 2023 Harvard John A. Paulson School of Engineering & Applied Sciences. Guest lecture in *CS79 Design of Useful and Usable Interactive Interfaces*. Allston, MA, USA.
- 2020 National Technical University of Athens, School of Architecture. Invited talk in Special Topics in the History and Theory of Architecture (9<sup>th</sup> sem.). Athens, Greece. *Online*.
- 2018 Massachusetts Institute of Technology, Department of Architecture. Guest lecture in *4.541 Intro to Shape Grammars II*. Cambridge, MA, USA.
- 2016 Dartmouth College, Department of Music. Invited talk in the *Third Annual Workshop in the Woods on Audio and Visual Synthesis*. New Hampshire, MA, USA.
- 2016 Northwestern University, Invited talk in the 'Design Descriptions Workshop,' at the *Sixteenth International Conference on Design Computing and Cognition*. Chicago, IL, USA.
- 2015 Massachusetts Institute of Technology, Department of Architecture. Invited talk at the Digital Structures Research Group. Cambridge, MA, USA.
- 2013 Aristotle University of Thessaloniki, School of Architecture. Lecture Series in Design through a Play of Undoing Graduate Studio. Thessaloniki, Greece.
- 2013 Aristotle University of Thessaloniki, School of Architecture. Lecture Series: Paradigm Shift in Architecture: The Architect-Creator & The New Design Tools. Thessaloniki, Greece.

### Other Publications

"The Geometries of Line Drawings." In *Imprint 01*, Issue 1, MIT Architecture: pp: 78-79. 2021.

"Some open problems regarding the number of lines and slopes in arrangements that determine shapes," *arXiv:2011.10700*. 2020.

"The geometry of arrangements that contain shapes," *arXiv:2010.14250*. 2020.

"Natural language and spatial rules," A. Haridis and S. Rossikopoulou-Pappa. *arXiv:2111.14066*. 2018.

## TEACHING EXPERIENCE

### Current Roles

#### Harvard University, Cambridge, MA

Spring 2024, 2026 *Computing, Design, Values (ES138/SCI6508)*

#### Role: Course developer and Instructor

Interdisciplinary introduction to the central frameworks that shape the relationship and application of computation in design. Provides opportunity for conducting publication-level research studies in computing in an area relevant to creative design such as architecture, visual and applied arts, and engineering design. Joint offering between Harvard SEAS and the Graduate School of Design. Open to all degree concentrations at Harvard University. Recipient of the *Harvard OUE Course Innovation Grant* (2025).

Fall 2023–  
2025 *Collaborative Design Engineering Studio I (STU1231)*

**Role:** Co-Instructor

Project-based introduction to ideas, methods, and techniques essential for the design engineer. Fosters integrated design intelligence engaging visual, data-driven, experimental, computational and strategic methods towards collaborative inventive ends. *Studio Themes:* "Future of Work" (2023), "Water" (2024), "Natural+Artificial" (2025). Joint offering between Harvard SEAS and the Graduate School of design for the Master of Design Engineering degree.

### Previous Roles

**Northeastern University, College of Arts, Media, and Design, Boston, MA**

**Role:** Instructor

Spring 2023 *Studios in Data-Driven Visualization Technologies, Levels I & II (ARTG5330/5430)*

Introduction to the informative and expressive use of code, digital information, and data in a hands-on studio environment. Covers technologies for acquiring, processing, transforming, and curating data sources in a critical and productive way. Projects explore data sources originating from a range of fields such as cultural heritage, architecture, fine arts, and music. Core studio open to graduate students in Art+Design at CAMD.

*[As Graduate Teaching Assistant]*

**MIT Department of Electrical Engineering and Computer Science, Cambridge, MA**

2016, 2018 *Introduction to Artificial Intelligence (6.034/6.844).* Instruction and curriculum development.

**MIT Department of Architecture, Cambridge, MA**

2016-2021 *Proseminar/Research Seminar in Computation (4.581/4.582, SMarChS and PhD)*

Spring 2020 *Architecture Design Studio, Level II (4.024, BArch)*

Spring 2020 *Special Subject: Architectural Computation (4.s56)*

2016, 2020 *Introduction to Shape Grammars, Levels I & II (4.540/4.541)*

2014 *Architecture Design Option Studio (4.154, MArch)*

## FELLOWSHIPS, GRANTS AND HONORS

2024-2025 Harvard Provostial Fund for Arts and Humanities Research Grant

2023-2024 Harvard Data Science Initiative (HDSI) Research Grant

2022 MIT Hyzen Fellowship

2019-2022 Onassis Foundation Scholar

2018 Bill Mitchell++ Award, MIT School of Architecture & Planning

2017 MIT Presidential Fellowship

2017 MIT Graduate Student Council Travel Grant

2016-2018 Avalon Travelling Grant (multiple), MIT Department of Architecture

2015-2017 A.G. Leventis Foundation Scholar

2016 Floyd Narmore Architectural Fellowship, MIT Department of Architecture

2015 MIT Hyzen Fellowship

2015 Gerondelis Foundation Grant

2014-2016 MIT Department of Architecture Graduate Fellowship

2014 Highest Honors, Diploma Architect Engineer, Aristotle University, Greece

2013 Honorable Mention, National Architectural Ideas Competition, Technical Chamber of Greece

2011, 2013 15th and 16th Biennial of Young Artists

## EXHIBITIONS

### *Curated*

- 2026 "Beyond Data-Driven Aesthetics: Digital Reconstruction and Public Communication of 20<sup>th</sup>-century Aesthetic Systems in the Applied Arts." Keller Gallery, Massachusetts Institute of Technology, Cambridge, MA. April–August 2026.

### *Participated*

- 2023 "The Black City Astrolabe: A Constellation of African Diasporic Women." Physical three-dimensional installation in collaboration with the [MIT Black City Group](#) on view at the 18<sup>th</sup> Biennale of Architecture in Venice, Arsenale, Venice, Italy, May 20–November 26, 2023. Sponsored by: [MIT Center for Art, Science & Technology \(CAST\)](#) and [Graham Foundation](#).
- 2022 "Histories of Negation | Black City: The Arkansas Edition." Exhibition in collaboration with the [MIT Black City Group](#), on view at the MIT's Department of Architecture Keller Gallery. Cambridge, MA, November 4–December 2, 2022. Sponsored by: [MIT Center for Art, Science & Technology \(CAST\)](#) and MIT SA+P.
- 2018 "Elements of Spatial Configuration of a Settlement of Huts on the Delta of Evros River." Mapping and field work project on view at the Boston Architectural College Faculty Exhibit. Boston, MA, February–May, 2018.
- 2016 "Shelters for a Refugee Camp - Berlin Award 2016 Heimat in der Fremde," Competition entry in collaboration with [Horotechniki S.A.](#), on view at the German Pavillion at the 15<sup>th</sup> Venice Biennale of Architecture, 2016. Organization: The Berlin Senate Department for Urban Development and the Environment.
- 2015 "Ouroboros." Physical model of shortlisted architectural design competition entry for the [NASA Centennial Challenge: 3D Printed Habitat](#) on view at Maker Faire by Maker Media, New York Hall of Science, New York, September 22–23, 2015. Press: [MIT News](#). Sponsored by: [MIT Digital Structures Group](#).
- "Paperwave Pavilion." Physical three-dimensional installation on view at the Expo Pavillions of the 2015 International Association of Shell and Spatial Structures (IASS) Annual Symposium "Future Visions." Amsterdam, Netherlands, August 2015. Sponsored by: [MIT Digital Structures Group](#).
- "MateReality: 25 under 25." Curation of exhibition with [archstudies.gr](#) in collaboration with [archisearch.gr](#) and [Design Lab](#), May–June, 2015. Technopolis area, Athens, Greece. [Press](#).
- 2014 "National Ideas Competition for the Recreation of Public Spaces." Awarded competition entry in collaboration with [Horotechniki S.A.](#), on view at the Museum of Byzantine Culture as part of the exhibition series of [Imagine the City](#), June 20–29, 2014. Thessaloniki, Greece.
- 2013 "National Ideas Competition for the Design of a Landmark (Toposimo) for the Falirou Bay in Athens." Competition entry and physical model on view at the [New Benaki Museum](#). February–March, 2013. Athens, Greece. Sponsored by: Ministry of Environment, Energy and Climate Change in collaboration with the Benaki Museum.
- "Logic and Dissonance." Multimedia art installation on view at the 16th Young Artists Biennial ([BJCEM](#)), June 7–July 7, 2013. Mole Vanvitelliana, Ancona, Italy. Also on view at the [CAMP Contemporary Art Meeting Point](#), January 7–16, 2014. Athens, Greece. Sponsored by: Hellenic General Secretariat for Youth of Greece.

## SERVICE

### **Reviewer for Academic Publications**

*Environment and Planning B* (2019–Present). *AI EDAM* (2019–Present). *The Journal of*

*Mathematics and the Arts* (2023-Present)· *Nexus Network Journal* (2018-Present)· *Technology / Architecture+Design* (2019-Present)· *Design Computing & Cognition* (2020–2024)· *Design Research Society* (2024)

### University Committees

2023-Present Graduate Admissions Committee Member, Harvard Graduate School of Design  
 2023-2024 Innovation Council Member, Harvard John A. Paulson School of Engineering & Applied Sciences  
 2021-2022 Graduate Admissions Committee Member, SMArchS & PhD, MIT Department of Architecture  
 2018-2020 Cabinet Representative for PhD students, MIT Architecture Student Council (ASC)

### Organization

08/2023 Organizer: "Creative Computing Workshop." Harvard Paulson School of Engineering & Applied Sciences in collaboration with the Graduate School of Design. Science & Engineering Complex, Allston, MA, United States.  
 05/2021 Co-chair: Eurographics 2021 - Workshop Track "Quantifying Shape Complexity" on 3D Object Retrieval (3DOR'21, [online](#)). Vienna, Austria.  
 2017–2019 4.583 Forum in Computation. MIT Department of Architecture, Computation Group.  
 05—08/2020 Co-organizer: "Algorithmic & Mathematical Methods in Architecture and Design." Sponsored by: Summer Work and Pedagogy Program, MIT Department of Architecture.  
 01/2018 Co-organizer: International Workshop, "Design Without a Discipline." MIT Computation Group in collaboration with the UAI Design Lab in Santiago Chile. Sponsored by: MIT MISTI-Chile.

### Invited Studio and Project Critic

Massachusetts Institute of Technology, Harvard University, Georgia Institute of Technology, Wenworth Institute of Technology, Boston Architectural College, National Technical University of Athens, Aristotle University of Thessaloniki

### Primary Advisor in Master's Theses

List of students and theses available upon request.

## OTHER EXPERIENCE

### Professional Employment

2020-Present Architect Consultant: Egnatia Group S.A., Thessaloniki, Greece  
 05—09/2019 Research Scientist Intern: OPT Industries, Inc., Cambridge, MA, USA  
 06—10/2017 AI Research Engineer: Hosta a.i., Cambridge, MA, USA  
 06—08/2016 Computational Design Intern: AW-ARCH (Anmahian Winton Architects), Cambridge, MA, USA  
 2013–2016 Architect/Designer: Horotechniki S.A., Thessaloniki, Greece  
 2009-2013 Architect/Designer: Egnatia Group S.A., Thessaloniki, Greece

### Pedagogical Training

2018 Kaufman Teaching Certificate Program, MIT Teaching+Learning Lab

### Languages

Greek (native), English (fluent), Armenian (mother's language), German (beginner)

### Membership

ACM (2014-Present)· ACADIA (2014-Present)· Onassis Scholar's Association (2022-Present)· MIT HSA (2014-2022)

### Art

Electronic music composition, production, and performance. Discography (2009–2015, 2024–). Record releases and distribution in Greece, Italy, Norway, and Germany