Curriculum Vitae last updated on 12/11/2023

Biography	**Pirouz Nourian**, Born on 19, July, 1981, Tehran, Iran
Nationality	**Dutch-Iranian**
Position	**Assistant Professor of Digital Twinning (Jan 2023 forward, tenured)**
@	**University of Twente (UT)** **Faculty Geo-Information Science and Earth Observation (ITC)** **Department of Urban Planning & Geo-Information Management (PGM)** **People, Land And Urban Systems Research Group (PLUS)**
Address	University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands
Contact	GSC RSG ELS ORC LAB HUB TUB LIN WEB T +31 68 38 46119; E genesis.lab.engineer@gmail.com p.nourian@utwente.nl; W Genesis Lab

Academic Degrees

2010-2016	Ph.D. in Design Informatics, September 30, 2016	Delft University of Technology	NL
thesis	Graph Theoretical Methods for Design and Analysis of Spatial Configurations		
2005-2009	M.Arch., September 15, 2009, Cum Laude	Tehran University of Art	IR
thesis	Dynamics of Design Processes in conjunction with Construction Processes		
1999-2004	B.Sc. in Electrical Engineering, March 1, 2005	K.N. Toosi University of Technology	IR
track thesis	Major in Control Systems Engineering Design and Implementation of a Digital Control System in MATLAB, full mark		
1998-1999	College Diploma in Mathematics and Physics, Cum Laude	Dr. Hesabi College	IR

Employment History

2023--------	▪ Senior Assistant Professor (UD1) of Digital Twinning @ University of Twente (Jan 2023-Present, E#77196160)
2016-2022	▪ Junior Assistant Professor (UD2) of Design Informatics @ TU Delft (Dec 2016-Dec 2022, E#863103)
2015-2016	▪ Researcher of Urban Design @ TU Delft (Nov 2015- May 2016), Project SOUL-FI
2014-2015	▪ Researcher of GIS Technology and 3D Geo-information @ TU Delft (Aug 2014- Oct 2014- Apr 2015), Project BDAIGS
2014-2018	▪ Instructor of Geomatics @TU Delft (Feb 2014-Feb-2018)
2011-2015	▪ Instructor of Design Informatics @ TU Delft (May 2011-Nov 2015)
2008-2009	▪ Teaching Assistant (BSc Design Studio, Form Studies, Computer Aided Design), @ Tehran University of Art
2006-2010	▪ Architect & Design Technical Manager, @ Gashtaar/Tracture (Transformative Architecture Office), Tehran, Iran
2005-2007	▪ Architect & Interior Designer [freelance] three interior design-build projects [residential/commercial] in Tehran
2004-2009	▪ Carpenter and Modeller [freelance]
2004-2005	▪ Trainee Engineer, Industrial Control Systems, @ STEP Engineering Consultants Ltd., Cement Factory Design
2003-2004	▪ Teaching Assistant (Control Theory, Industrial Control), @ K.N. Toosi University of Technology

Professional Skills

Methodical	Architectural Design, Urban Design, Urban Planning, Design Methodology, Research Methodology, Space Planning, CAD-CAM, Mathematical Modelling, Scientific Computing, Numerical Computing, 3D Geometric Modelling & Simulation, Spatial Analysis, Open Science, Open-Source Software Development
Technical	Vectorized Programming (specified below), Grasshopper3D®(advanced), Rhinoceros3D®(advanced), AutoCAD, Depth Map, Microsoft Office, Git (basic), Markdown (advanced), LaTeX (basic), Vector Drawing, Carpentry, Research Software Engineering, Physical Modelling, Fabrication, Construction
Maths	Linear Algebra, Graph Theory, Spectral/Algebraic Graph Theory, Markov Chains, Computational Topology, Computational Geometry, Fuzzy Logic, Vector Calculus, Control Theory, Differential Equations, Numerical Methods

Soft Skills	Research & Development, Project Management (Gantt, PERT, UML, Budgeting), Science Communication, Problem-Solving, Scientific Coaching, STEM Tutoring, Teamwork, Career Motivation, Organisation, and Communication, ▪ Entrepreneurship & Valorisation (certificate 2009), ▪ Design Didactics (certificate 2015), ▪ University Teaching Qualification (UTQ Certificate and Compliments from 4TU, Apr 13, 2022): > DEVLEOP: Trainer Drs. Jonna Vis, Finished with Certificate and Compliments (Apr 28 till Jul 13, 2021) > ASSESS: Trainer MA. Inge Rozendal, Finished with Certificate and Compliments (Jun 21 till Aug 16, 2021) > SUPERVISE: Trainer Ir. Alexia Luising, Finished with Certificate and Compliments (Jun 7 till Sep 21, 2021) > TEACH: Trainer Ir. Alexia Luising, Finished with Certificate and Compliments, (Sep 27 till Oct 28, 2021) ▪ Personal Development Program (May 27, 2021 till Jan 12, 2022, PDP Certificate)
Natural Languages	English (C2 Certificate from ELT unit @ TU Delft dated 24/09/2021+ TOEFL IBT 2010), Dutch (A2 Certificate), Persian (native), French (basic reading), Arabic (basic reading)
Artificial Languages	Python (advanced, NumPy/SciPy family of libraries), C# (advanced, Math.NET, Meta.Numerics, Accord.NET frameworks), MATLAB (basic, Simulink), Mathematica (basic), RhinoScript/RhinoCommon (advanced), COMPAS (intermediate), Visual Studio (IDE, pro-user), Visual Studio Code (IDE, pro-user), LaTeX (advanced)

Selected Academic Committee Membership

2023	▪ Chief Editor Special Issue of Mathematics "**Advances in Spectral Graph Theory and Its Applications**" ▪ Proposal Evaluator at the Swiss Data Science Centre (SDSC)
2021-2022	▪ Guest Editor Special Issue of Sustainability "Computational Advancements for Low-Carbon Structures" ▪ Honorary Member of the International Building Performance Simulation Association (IPBSA-IR) ▪ Member of the Scientific Committee of 7th Smart Data and Smart Cities Conference at UNSW, UDMS, Sydney ▪ Proposal Evaluator at the Cyprus Research & Innovation Foundation ▪ Member of the Scientific Committee of the 5th City Street Symposium, ▪ Member of digital twinning and digital design committee for Spatial Decision Support Systems and Building Industry 4.0 within the Dutch Network "Urban Development Initiative" ▪ Member of the 1M Homes Research Platform, Work-Package Leader in Digitalization and industrialisation of Housing ▪ Member of the AI@ABE Working Group: Tenure-Track Selection Committee of Delft AI Labs (AiDAPT, AiBLE), and representative of ABE in the TU Delft's AI initiative for Technological Industry (Feb-2020- Feb 2022) ▪ Member of the Open Building Academy ▪ Member of the Open Science Community Delft ▪ PhD Defence Committee member of Dr. Martin Bielik (@Bauhaus-Universität Weimar, Defence in Feb 2021) ▪ PhD Coordinator of the Department of Architectural Engineering and Technology ▪ Strategic Personnel Planning Ambassador of the section Digital Technologies
2019-2020	▪ PhD Examiner Mr. Nan Bai (Heritage & Values + Design Informatics @TUDelft, 22 Oct, 2020) ▪ PhD Examiner Ms. Maria Valese (Heritage & Values + 3D Geoinformation @TUDelft, 17 Dec, 2020) ▪ Member of the Digital Skills Education community of TU Delft
2017-2022	▪ PhD Examiner Ms. Cemre Çubukçuoğlu (Design Informatics @TUDelft, 07, Sep, 2018) ▪ PhD Examiner Mr. Stelios Vitalis (3DGeoinformation @TUDelft, 13, Feb, 2018) ▪ Member of Geomatics Staff Instruction Committee (2015-2018) ▪ Reviewed for (2017-present): o *Automation in Construction*, o *Computer Aided Design*, o *Environment and Planning B*, o *Transport and Geography Planning Practice Research*, o *ISPRS International Journal of Geo Information*, o *Experimental & Theoretical Artificial Intelligence*, o *Sustainability* ▪ *Member of Faculty Advisory Team, Solar Decathlon competition team MOR at TU Delft*
2015-2022	▪ Jury Member of The 11th European and Regional Planning Awards of ECTP-CEU Brussels, Jan-July 2016 ▪ Member of Review Committee: o 13th Space Syntax Symposium @ Western Norway University of Applied Sciences, June 2022 o 11th Space Syntax Symposium @Instituto Superior Technico, University of Lisbon, July 2017 o CAADence in Architecture, @ Budapest U of Tech. and Economics, Review Committee, June 2016 o 7th SimAUD Symposium @ UCL, Review Committee, May 2016 o 33rd eCAADe Conference, @TU Wien, Review Committee, September 2015 o 10th Space Syntax Symposium, Review Committee, @UCL, July 2015

Publications (more on Pure & ResearchGate)

Digital Design Tools

Since 2020
- **topoGenesis:** a python library of topological data structures and algorithms for voxel-based generative design
- **VectoRelax:** a vectorized dynamic relaxation algorithm for shape optimization and graph embedding

Since 2014
- **Solaris:** a tool suite for solar analysis and solar form finding (Work-in-Progress)

Since 2013
- **SYNTACTIC:** a computational tool suite for analysing/designing architectural configurations

Since 2012
- **CONFIGURBANIST:** a computational tool suite for analysing/designing urban configurations

3D Modelling Tools

Since 2014
- **RASTERWORKS** a computational library of methods for voxel and 3D raster model

2014-2015
- **TOIDAR:** Educational Toys for 3D reconstruction using LiDAR point clouds

Journal Articles

2023
- Nourian, P., Azadi, S., Bai, N., de Andrade, B., Rezvani, S., Abu Zaid, N., Pereira Roders, A., **EquiCity Game: A mathematical serious game for participatory design of spatial configurations,** Nature Scientific Reports, Special Issue on Smart Cities, [URL].
- Nourian, P., Azadi, S. **Voxel Graph Operators: Topological Voxelization, Graph Generation, and Derivation of Discrete Differential Operators from Voxel Complexes**. Advances in Engineering Software, [URL].
- Azadi, S., Bai, N., Nourian, P., **Spatial Complexity in Urban Ergonomics: New Methods for Generative Simulations on Voxel Models Extracted from GIS and BIM models**, under review.
- Bai, N., Nourian, P., Lou, R., Cheng, T., Pereia Roders, A., (2023). **Screening the stones of Venice: Mapping social perceptions of cultural significance through graph-based semi-supervised classification,** ISPRS Journal of Photogrammetry and Remote Sensing, 203, pp. 135-164 [URL]
- Jia, Z., Nourian, P., Luscuere, P., Wagenaar, C., **Spatial Decision Support Systems for Hospital Layout Design: A Review,** Building Engineering, [URL].
- Bai, N., Ducci, M., Mirzikashvili, R., Nourian, P., and Pereira Roders, A. (2023): **Mapping Urban Heritage Images With Social Media Data And Artificial Intelligence, A Case Study In Testaccio, Rome**, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLVIII-M-2-2023, 139–146, https://doi.org/10.5194/isprs-archives-XLVIII-M-2-2023-139-2023, 2023. [URL]

2022
- Bai, N., Nourian, P., Lou, R., Pereia Roders, A., (2022). **Heri-Graphs: A Workflow of Creating Datasets for Multi-modal Machine Learning on Graphs of Heritage Values and Attributes with Social Media,** ISPRS International Journal of Geo-Information**,** [arXiv:2205.07545][URL]
- Bai, N., Nourian, P., Pereira Roders, A., Bunschoten, R., Huang, W., Wang, L., (2022). **MORPHOLOGY, COGNITION, AND BEHAVIOUR, Identifying the Rural Heritage in a Chinese Historic Village,** Environment and Planning B, [URL]
- Cubukcuoglu, C., Nourian, S, Sariyildiz, S., Tasgetiran, M.F., (2022). **Optimal Design of New Hospitals: A Computational Workflow for Stacking, Zoning, and Routing**, Automation in Construction [URL]
- Azadi, S., Kasraian, D, Nourian, P., van Wesemael, P, **Twin Gauge: A Conceptual Framework for Digital Twining and Configuring Planning Support Systems**, Environment and Planning B, under review.

2021
- Bai, N., Nourian, P., Lou, R., Pereira Roders, A., (2021). **"What Is OUV" Revisited: A Computational Interpretation on the Statements of Outstanding Universal Value,** ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences, [URL]
- Azadi, S., Florou, A., Nourian, P., **Vista-Networks: Intervisibility Graphs for Solar Form Finding,** in preparation.

2020
- Cubukcuoglu, C., Nourian, P., Azadi, S, Sariyildiz, S., Tasgetiran, M.F., (2020). **Formulating a Hospital Layout Design Problem as a Quadratic Assignment Problem**, Building Engineering [URL]
- Cubukcuoglu, C., Nourian, P., Sariyildiz, S., Tasgetiran, M.F., (2020). **A discrete event simulation procedure for validating programs of requirements: The case of hospital space planning [URL]**

2019
- Nourian, P., Rezvani, S., **Functional Logic of Space: A Differential-Probabilistic View on Socio-Spatial Organization Networks and Computational Space Planning**, in preparation.

2018
- Nourian, P., Rezvani, S., Valeckaite, K., Sariyildiz, S., (2018). **Modelling walking and cycling accessibility and mobility: The effect of network configuration and occupancy on spatial dynamics of active mobility**, Smart and Sustainable Built Environment 7 (1), 101-116 [URL]
- Nourian, P., Martinez-Ortiz, C., Ohori, K.A., (2018). **Essential Means for Urban Computing: Specification of Web-Based Computing Platforms for Urban Planning, a Hitchhiker's Guide**, Urban Planning 3 (1), 47-57 [URL]

2016
- Nourian, P., Gonçalves, R., Zlatanova, S., Ohori, K. A., & Vo, A. V. (2016). **Voxelization algorithms for geospatial applications: Computational methods for voxelating spatial datasets of 3D city models**. *MethodsX*, *3*, 69-86. [URL]

Books/Textbooks/Book Chapters

2023
- Nourian, P., Azadi, S., Uijtendaal, R., Bai, N., (2023) **Augmented Computational Design: Methodical Application of Artificial Intelligence in Generative Design,** in Artificial Intelligence in Performance-Driven Design: Theories, Methods, and Tools Towards Sustainability, by Abbas Abadi, N. and Ashayeri, M. Editors, Wiley, [URL].
- Nourian, P., Azadi, S., Oval, R., (2023). **Generative Design in Architecture: From Mathematical Optimization to Grammatical Customization**, in Computational Design and Digital Manufacturing" by P. Kyratsis, A. Manavis and J. P. Davim (Editors), Springer Nature Switzerland AG, [URL].

2021
- Nourian, P. , Bai, N. (2021). **Reuse: Configurational Assessment of Functionality**, in **CRASH: A method to reveal the impact of architectural redesigns, pp. 23-73,** Eds. A. Pereira Roders, [URL].
- Nourian, P., Azadi, S., **Participatory Generative Design Education: On Cultivating Collective Intelligence in Design and Planning,** in A&BE Research on Education Innovation, BK Books, Eds. Rooij, R. Carvalho, R., van der Hoeven F., accepted, in press.

2020
- Nourian, P., (2020). **Rudiments of Geometry and Topology for Computational Design,** Chapter 1, Fundamentals of Spatial Computing and Computational Design [Preprint][Live]
- Nourian, P., (2020). **Rudiments of Linear Algebra and Computer Graphics for Computational Design,** Chapter 0, Fundamentals of Spatial Computing and Computational Design [Preprint][Live]
- Nourian, P., (2020). **How to write a thesis: A Generative Design Graduate Studio Guidebook, [**URL**]**

2016
- Nourian, P. (2016). **CONFIGRAPHICS: Graph Theoretical Methods for Design and Analysis of Spatial Configurations,** *A+BE| Architecture and the Built Environment*, *6*(14), 1-348 [URL]
- Sileryte, R, Nourian, P, van der Spek, S, (2016). **Modelling Spatial Patterns of Outdoor Physical Activities using Mobile Sports Tracking Application Data**, Springer Lecture Notes on Geoinformation and Cartography [URL]

2014
- Chen, J.C., Sileryte, R, Zhou, K. Nourian, P, Zlatanova, S., (2014). **Automated 3D Reconstruction of Buildings out of Point Clouds obtained from Panoramic Images**, Technical Report, TU Delft, commissioned by Cyclomedia BV [URL]

Conference Papers

2023
- Azadi, S., Kasraian, D., Nourian, P., van Wesemael, P., (2023). **Augmented Urban Planning: A Framework for Strategic Urban Planning**, The 18th International Conference on Computational Urban Planning and Urban Management (CUPUM 2023) in Montreal, Canada, 20-22 June 2023 [URL]

2022
- Liu, B., Chen, Q., Nourian, P., Bianchi, S. Mehrotra, A., (2022). **Topological Design of Interlocking Blocks for Masonry Buildings,** IASS 2022, Innovation, Sustainability and Legacy, Beijing, [URL] [video].
- Soman, A.P., Azadi, S., Nourian, P., (2022). **DeciGenArch: A Generative Design Methodology for Architectural Configuration via Multi-Criteria Decision Analysis***, eCAADe 2022, Co-creating the Future: Inclusion in and through Design,* [URL][video].

2021
- Brembilla, E., Azadi, S., Nourian, P., (2021). **A Computational Approach for Checking Compliance with European View and Sunlight Exposure Criteria***, Building Simulation 2021 Conference, Bruges, Belgium, accepted, in press* [Paper ID 30353][arxiv:2109.11037][URL]
- Bai, N., Nourian, P., Pereia Roders, A., (2021). **GLOBAL CITIZENS AND WORLD HERITAGE: SOCIAL INCLUSION OF ONLINE COMMUNITIES IN HERITAGE PLANNING**, Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XLVI-M-1-2021, 23–30, [URL]
- Bai, N., Lou, R., Nourian, P., Pereia Roders, A., (2021). **WHOSe Heritage: Classification of UNESCO World Heritage "Outstanding Universal Value" Documents with Smoothed Labels***,* Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (ACL-IJCNLP 2021), [arXiv:2104.05547][URL1][URL2]
- Azadi, S., Nourian, P., (2021). **GoDesign - A modular generative design framework for mass-customization and optimization in architectural design,** 39th eCAADe Conference 2021, Towards a new, configurable architecture, [URL].
- Bitting, S., Azadi, S., Nourian, P., (2021). ***Reconfigurable Domes - Computational design of dry-fit blocks for modular vaulting,*** 39th eCAADe Conference 2021, Towards a new, configurable architecture, 39, [URL].

2020
- Bai, N., Azadi, S., Nourian, P. Pereira Roders, A. (2020). ***Decision-Making as a Social Choice Game: Gamifying an urban redevelopment process in search for consensus,*** eCAADe2020 – Anthropologic, 38, Vol. 2 **[**URL**]**
- Bai, N., Nourian, P., Xie, A. Pereira Roders, A. (2020). ***TOWARDS A FINER HERITAGE MANAGEMENT Evaluating the Tourism Carrying Capacity using an Agent-Based Model,*** Proceedings of the 25th International Conference of the Association for Computer-Aided Architectural Design Research in Asia (CAADRIA) 2020 **[**URL**][**Video**]**

2019
- Bot, F.J, Nourian, P., Verbree, E, (2019). ***A Graph-Matching Approach to Indoor Localization Using a Mobile Device and A Reference Bim,*** Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci. 42 (2), 761-767, [URL]

2018
- Sulzer R., Nourian P., Palmieri, M., van Gemert, J. (2018). ***Shape-Based Classification of Seismic Structural Building Types***, 3d geoinfo conference 2018, Delft [URL]
- Daw, K., Azadi, S., Nourian P., Hoogenboom, H, (2018). **Earthy Honeycombs: Construction Design of Adobe Shell Structures by Topological Polyhedralization**, IASS Conference 2018, MIT [URL]

2016
- Goncalves, R, Zlatanova S, Kyzirakos, K, Nourian, P, Alvanaki, F, van Hage, W, (2016). **A columnar architecture for modern risk management systems**, IEEE 12th International Conference on eScience, 23-27 October 2016, Baltimore, USA [URL]
- Nourian, P., Rezvani, S., Sariyildiz, I. S., & van der Hoeven, F. D. (2016). **Spectral Modelling for Spatial Network Analysis,** In *Proceedings of the Symposium on Simulation for Architecture and Urban Design (simAUD 2016)* [URL]

2015
- Nourian, P., Rezvani, S., Sariyildiz, S, van der Hoeven, F. (2015). **CONFIGURBANIST - Urban Configuration Analysis for Walking and Cycling via Easiest Paths**, proceedings of the 33rd eCAADe Conference, TU Wien, Vienna [URL]
- Nourian, P., van der Hoeven, F, Rezvani, S., Sariyildiz, S. (2015). **Easiest paths for walking and cycling: Combining syntactic and geographic analyses in studying walking and cycling mobility**, proceedings of the 10th Space Syntax Symposium, UCL, London [URL]

2014
- Goncalves, R, Ivanova, M, Kersten, M, Scholten, H, Zlatanova, S , Alvanaki, F, Nourian, P & Dias, E, (2014). **Big Data analytics in the Geo-Spatial Domain,** Groningen, Big Data Across Disciplines: In Search of Symbiosis, conference 3-5 November 2014 [URL]

2013
- Nourian, P. Rezvani, S., Sariyildiz, S., (2013). **Designing with Space Syntax**. Proceedings of eCAADe 2013, (pp. 357-366), Delft [URL]
- Nourian, P., Rezvani, S., Sariyildiz, S., (2013). **A Syntactic Design Methodology**, Proceedings of 9th Space Syntax Symposium. Seoul [URL]

2012
- Nourian, P., Sariyildiz, S., Rezvani, S., (2012). **An Interactive Computational Methodology for Urban Mixed-Use Allocation** according to density distributions, network analysis and geographic attractions, Proceedings of Changing Cities Conference, Skiathos [URL]
- Nourian, P, Sariyildiz, S, (2012). **A Configurative Approach to Neighbourhood Planning and Design,** promoting pedestrian mobility: An interactive design method for polycentric distribution of built space according to walkability, attractions and topographic features. Proceedings of New Configurations ISUF International Conference on Urban Morphology [URL]

2011
- Beirão, J, Nourian, P, Van Walderveen, B, (2011). **An Integrated Process of Urban Pattern Generation and Route Structure Analysis**, in IASDR 2011 proceedings, Delft, the Netherlands [URL].
- Beirão, J, Nourian, P, Mashhoodi, B, (2011). **A Parametric Urban Design System**, in eCAADe Slovenia Conference Proceedings, Ljubljana, Slovenia [URL]

Papers in Professional Magazines

2021
- Azadi, S. Nourian, P., (2021). **Collective Intelligence in Generative Design: A Human-Centric Approach Towards Scientific Design,** RUMOER, issue 76, pp. 7-16, [Preprint]

2020
- Nourian, P., Azadi, S. Hoogenboom, H, Sariyildiz, S, (2020). **EARTHY: Computational Generative Design for Earth and Masonry Architecture,** RUMOER, issue 74, pp.47-53, [Preprint]

2019
- Bot, F., Verbree, E., Nourian, P. (2019). **Locatiebepaling binnen gebouwen op basis van spectrale graafanalyse,** Geo-Info, 16(3), 32-34 [URL]

Invited Talks

2023
- Nourian, P. (2023), **Augmented Computational Design: Artificial Intelligence for Performance Based Architecture,** AI @AEC, University of Washington, [URL][video]

2021
- Nourian, P., Azadi, S. (2021) **Voxel Planet: Customizable Quality Housing for the Masses,** Pixel Planet Design Studio of The Why Factory, [Event][URL]
- Nourian, P., (2021) **Open Source Participatory Design and Construction of Open Buildings: Affordable 'Haute Couture' for the Masses by means of Design-Build Games,** Open Building Now 2.0, [Event] [URL] [video]
- Nourian, P., Bai, N., (2021) **The appeal of small world landscapes: complexity or simplicity?** Future Landscapes Symposium Vrije Universiteit Amsterdam, [Event] [URL] [short video][long video]

2019
- Nourian, P., (2019), **Configurative Generative Design**: Digitization, Digitalization, and Digital Transformation in Architecture and Urban Design, Conference: lezingreeks-parametrisch-ontwerpen @Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, @ Rijksvastgoedbedrijf, The Hague [Event][URL] [video]
- Nourian, P., (2019), **Mathematical and Computational Modelling of Doubly Complex Systems**: in Architecture and Urban Design, Conference: Democratization of Heritage Management, Heriland European Project [URL]
- Nourian, P., (2019), **Configurative Design**: Computational Space Planning, Layout, and Form-Finding in Architecture, lecture @ MVRDV Rotterdam, MVRDV Next, March 7, 2019 [Event][URL]

2018
- Nourian, P., (2018), **Navigating Indoor Cities**: Graphs/Networks and Indoor Navigation, invited lecture for Positioning and Location Awareness, [URL]
- Nourian, P., (2018), **Indoor Cities**: on seamless indoor-outdoor navigation and why/how it matters in designing complex buildings, invited lecture for BK-Health, October 2018, [URL]

2012

- Nourian, P. (2012), On **Computational Design Methodology**, CIAUD: Research Centre for Architecture, Urban Planning and Design, Measuring Urbanity Seminar & Workshop, Lisbon, May 7th-12th, 2012, FAUTL - Faculty of Architecture, Technical University of Lisbon [URL]
- Nourian, P., Sariyildiz, S (2012), **A Computational Walkability Assessment Model**, CIB Webinars on measuring Urban Sustainability [URL]

Teaching Experiences

Master of Science in Architecture, Urbanism, and Building Sciences/Building Technology

2020-2022
- Lecturer and Instructor in **Research and Innovations** AR1B031 [Lecture][video]

2021-2022
- Studio Director of **EARTHY 4.0 [GIT]: Generative Design for Earth and Masonry Architecture** AR3B011 [video]

2020-2021
- Studio Director of **EARTHY 3.0 [GIT]: Generative Design for Earth and Masonry Architecture** AR3B011 [video]

2019-2020
- Studio Director of **EARTHY 2.0 [GIT]**: **Generative Design for Earth and Masonry Architecture** A13B011 [video]

2018-2019
- Studio Director of **EARTHY 1.0 [GIT]: Generative Design for Earth and Masonry Architecture** AR3B011

2016-2017
- Instructor of **Parametric Design** in (MSc 1, Q1, Q3) Bucky Lab Design CAD (AR1AE015)
- Instructor of **Computational Design** in (MSc 2, Q4) MEGA High-Rise Design (AR0026)

2015-2016
- Instructor of **Parametric Design** in (MSc 1, Q1, Q3) Bucky Lab Design CAD (AR1AE015)
- Instructor of **Computational Design** in (MSc 2, Q4) BIG and TALL Workshop (AR0026)

2014-2015
- Instructor of **Parametric Design** in (MSc 1, Q1, Q3) Bucky Lab Design CAD (AR1AE015)
- Responsible Instructor of **Computational Design** in (MSc 2, Q2& Q4) BIG and TALL Workshop (AR0026)

2013-2014
- Instructor of **Parametric Design** in (MSc 1, Q1, Q3) Bucky Lab Design CAD (AR1AE015)
- Responsible Instructor of **Computational Design** in (MSc 2, Q3) BIG and TALL Workshop (AR0026)

2012-2013
- Instructor of **Parametric Design** in (MSc 1, Q1, Q3) Bucky Lab Design CAD (AR1AE015)
- Responsible Instructor of **Computational Design** in (MSc 2, Q3) XXL Design Studio (AR0025)

2011-2012
- Instructor of **Computational Design** in (MSc 2, Q3) XXL Design Studio (AR0025)[2]
- Instructor of **Computational Design** in (MSc 3, Q3) Computational Architecture (AR4AC010)
- Instructor of **Parametric Design** in (MSc 1, Q1, Q3) Bucky Lab Design CAD (AR1AE015)

2010-2011
- Instructor of **Computational Design** in (MSc 2, Q3) XXL Design Studio (AR0025) [1]
- Instructor of **Parametric Design** in (MSc 1, Q1, Q3) Bucky Lab Design CAD (AR1AE015)

Master of Science in Architecture, Urbanism, and Building Sciences/Architecture

2020-2021
- Responsible Instructor for Reuse (Configurational Assessment) in **Mastermind CRASH** AR0108, Chapter

2019-2020
- Responsible instructor for Reuse (Configurational Assessment) in **Mastermind CRASH** AR0108, Website

2018-2019
- Responsible Instructor of **Future Models Seminar I**, **The Why Factory**, AR1TWF030, Q2, Studio Sky City

2017-2018
- Responsible Instructor of **Future Models Seminar II, The Why Factory**, AR0078, Q4, Studio Planet Maker
- Responsible Instructor of **Future Models Seminar I, The Why Factory**, AR1TWF030, Q2, Studio On The Go

2011-2012
- Instructor of **HYPERBODY Workshops & Lectures: The Digital Paradigm (**AR3AUE14**)**, MSc3 & MSc1, Q1

2009-2010
- Lecturer in (M.Arch. 3) **Design Methods and Techniques**, @ Tehran University of Art, fall 2009
- Lecturer in (M.Arch. 1) **Computer Aided Architectural Design** @ Tehran University of Art, fall 2009

Master of Science in Geomatics

2017-2018
- Responsible Instructor of **[Procedural] 3D Modelling of Built Environment** in (MSc 2, Q3) GEO1004

2016-2017
- Responsible Instructor of **[Procedural] 3D Modelling of Built Environment** in (MSc 2, Q3) GEO1004

2015-2016
- Responsible Instructor of **[Procedural] 3D Modelling of Built Environment** in (MSc 2, Q3) GEO1004

2014-2015
- Instructor of **[Procedural] 3D Modelling of Built Environment** in (MSc 2, Q3) (GEO1004)

2013-2014
- Instructor of **[Procedural] 3D Modelling of Built Environment** in (MSc 2, Q3) (GEO1004)

Minor Spatial Computing in Architectural Design

2021-2022
- Studio Director of Minor **Spatial Computing Design Studio 4.0 [GIT]** BK-MI-197-21/ BK7083 [video]

2020-2021
- Studio Director of Minor **Spatial Computing Design Studio 3.0 [GIT]** BK-MI-197-20/ BK7083 [video]

2019-2020
- Studio Director of Minor **Spatial Computing Design Studio 2.0 [GIT]** BK-MI-197-19/ BK7083 [video]

2018-2019
- Studio Director of Minor **Spatial Computing Design Studio 1.0 [GIT]** BK-MI-197-18/ BK7083

Bachelor of Science in Architecture, Urbanism, and Building Sciences

2020-2021
- Lecturer in **Overdracht en Vorm 3 Parametrisch Ontwerpen en -Optimalisatie** BK3OV3 [Lecture]

2019-2020 ▪ Lecturer in **Overdracht en Vorm 3 Parametrisch Ontwerpen en -Optimalisatie** BK3OV3

2018-2019 ▪ Lecturer in **Representation, Visualization and Form 3 Performative Design Computation** BK3OV3

2016-2017 ▪ Instructor of **Representation, Visualization and Form 3 Performative Design Computation** BK3OV3

2008-2009 ▪ Instructor of **BSc Architectural Design Studio** (1, 2, 3) @ Tehran University of Art, fall & spring 2008, spring 2009

Bachelor of Science in Electrical Engineering, Major in Control Systems Engineering

2004-2005 ▪ Teaching Assistant in **Industrial Control** (B.Sc. 4), spring 2004 at KNTU

2003-2004 ▪ Teaching Assistant in **Control Theory & Linear Control Systems** (B.Sc. 4), fall 2003 at KNTU

Thesis Supervision

PhD in Architectural Engineering & Urban Planning ***(As Daily Supervisor/Co-promotor)***

2023-2027 ▪ *Ivan Leonardo Cardenas, PhD Candidate of Augmented Neighbourhood Planning Support, University of Twente, WIP*

2021-2025 ▪ *Ir. Shervin Azadi* (starting in Oct 2021), PhD Candidate of Urbanism and Urban Architecture, **Spatial Decision Support Systems in Digital Twins**, @TU/e, UDI Funding, , doctoral examination passed in Jun 2023, WIP

▪ *Zhuoran Jia*, PhD Candidate of Health in Architecture and Built Environment, **Spatial Quality Assessment of Hospitals,** started in 2021, doctoral examination passed in Sep 2022, WIP

2019-2023 ▪ *Nan Bai* (started in 2019), PhD Candidate of Heritage & Values, **Heritage Planning and Inclusiveness, a Social Network Analysis Perspective**, Defended on Oct 5, 2023, HERILAND Funding, Cum Laude

2017-2022 ▪ *Cemre Çubukçuoğlu* (started in 2017), PhD Candidate of Design Informatics, **Hospital Layout Design Optimization using Computational Architecture**, Successfully Defended on Jan 18, 2023

2020-2022 ▪ *Federica Romagnoli*, Visiting PhD Student, Sapienza University of Rome, **Computational Design Approaches for Home Retrofitting for Home Healthcare**, research residence 01/03/2021-01/09/2021, Defended in Jun 2023

2020-2021 ▪ *Deniz Erdem Okumuş*, Visiting PhD Student, Istanbul Technical University, **Computational Design Approaches for Mitigating the Urban Heat Island Effects**, 16/09/2020-16/09/2021s, Defended in Aug 2022

Master of Science in Architecture, Urbanism, and Building Sciences/Building Technology

2021-2022 ▪ *Roy Uijtendaal,* Mass-Scale Automated Appraisal of Climatic Design Regulations, 1st mentor, **Cum Laude**

▪ *Kaan Akbaba,* Topology Optimization with Discrete Elements Modelling, 1st mentor, **dual degree**

▪ *Tim Schumann,* A Topological Design Workflow for Mass-Customization of Housing Envelopes, 1st mentor

▪ *Baolian Liu,* Topological Design of Stackable Blocks for Masonry Vaulting, 1st mentor

▪ *Qinglu Chen,* Topology Optimization using Discrete Element Modelling for Masonry Design, 1st mentor

▪ *Solkyu Park,* A Topological Design Workflow for Mass-Customization of Housing Envelopes, 1st mentor

▪ *Vasilka Espinosa,* Participatory Generative Design of Housing Collectives, 1st mentor

▪ *Tim Schouws,* Automated Appraisal of Lighting Regulations, 2nd mentor

2020-2021 ▪ *Anastasia Florou*, Generative Solar Climatic Design, 1st mentor, **Cum Laude**

▪ *Aditya P. Soman*, A Digital Game for Multi-Actor Housing Design, 1st mentor, **Cum Laude**

▪ *Selina Bitting*, Automated Modular Shell Design using Discrete Blocks, 1st mentor, **Cum Laude**

▪ *Beza Z. Bekele*, Gamification of Participatory Design of Housing Complexes, 1st mentor

▪ *Timmo de Haas*, Mass Customization of Housing Infill Designs, 2nd mentor

▪ *Max Ketelaar*, Generative Design of Buildings using Operations Research, 1st mentor

2019-2020 ▪ *Rick van Dijk*, Topology optimization as architectural form finding, 1st mentor, **Cum Laude**

▪ *David den Ouden*, Generating a Facility Layout Using the Gradient Descent Approach, 1st mentor **Cum Laude**

▪ *Konstantina Chouliara*, Cochleas: a methodology to convert an existing layout into a residential one, 1st mentor

▪ *Lincheng Jiang*, A Computational Method for Generating Floor Plans for Nursing Homes, 1st mentor

2018-2019 ▪ *Okan Turkcan*, Early-Stage Design Optimization of Naturally Ventilated Terminals, 1st mentor, **Cum Laude**

▪ *Ivan Avdic*, Bio-Inspired 3D Topology Optimization for Architectural Design, 1st mentor, **Cum Laude**

▪ *Idil Gümrük*, A computational approach for renewable architecture, 1st mentor

▪ *Thomas van Loon*, Subdivision and approximation of free-form steel structures, 1st mentor

2017-2018 ▪ *Michael Cobb*, Investigating Principal Stress Lines: Optimization of Grid-shell Structures, 2nd mentor

2016-2017 ▪ *Duc Ngo*, Towards A New Tensegrity System, 2nd mentor

Master of Science in Architecture, Urbanism, and Building Sciences/Architecture

2021-2022 ▪ *Ruben de Leeuw,* A Gamified Design Process for Mass-Customization of Prefab Housing

▪ *Leticija Petrova,* A Generative Design System for Mass-Customization of Wooden Prefab Housing, **Cum Laude**

▪ *Jacek Baczkowski,* Topological Design for Industrial Mass-Customization of Housing

- *Anna Kaletkina,* Topological Shell Design for Participatory Development of Housing Collectives
- *Berend Vos,* Topological Design of 100% Masonry Configurations, **Cum Laude**

2019-2020
- *Jacob Wysocki*, A Modular Design Method for Housing Configuration

2018-2019
- *Yannick Macken*, Automated Architectural Layout using dynamic relaxation, **Cum Laude**

2017-2018
- *Karim Daw*, HP-Architecture, Paper: Computational Design & Optimization of Adobe Shell Structures, **Cum Laude**
- *Shervin Azadi*, HP-Architecture, Lecture: Computational Design & Optimization of Adobe Shell Structures, **Cum Laude**

2012-2013
- *Samaneh Rezvani*, @Polimi, An Interactive Computational Methodology for Space Layout using Space Syntax

Master of Science in Sustainable Energy Technology/Solar Energy

2020-2021
- *Karthick Ganapathi Subramanian*, Opto-Geometric Modelling of Complex Urban Landscapes, 2nd mentor
- *Dennis Wilmink,* Invisible PV on Monumental Buildings, Examiner

2019-2020
- *Ruben Cardose, Irradiance simulation of PV system in urban environments, Examiner*

Master of Science in Geomatics

2021-2022
- *Max van Schendel,* Topometric Maps of Indoor Environments, 2nd mentor

2020-2021
- *MSc GIMA, Yuan Chen,* Modelling wastewater quantity and quality in Mexico -- using an ABM, Examiner.

2018-2019
- *Ioanna Tsakalakidou*, Walking Assignment in a 4-steps Travel Demand Model, 1st mentor
- *Ioanna Micha*, Design and Evaluate the OGC Web Services Architecture of a Geohazard analysis tool, 3rd mentor

2017-2018
- *Kotryna Valeckaite*, @ARUP, Design and Implementation ABM-Equipped SDSS, **Cum Laude**, 1st mentor.
- *Raphael Sulzer*, @ARUP, A Machine-Learning process for Topological Shape Recognition, **Cum Laude**, 1st mentor.
- *Fanny Bot*, Indoor Localization using Spectral Graph Theory, 2nd mentor

2016-2017
- *Oscar Willems*, Exploring a pure landmark-based approach for indoor localisation, 3rd mentor
- *Matthijs Bon*, An advanced prospecting method for assessing the value of urban cable mines, 3rd mentor

2015-2016
- *Rusne Sileryte*, Analysis of Urban Space Networks based on Mobile Tracking Data, **Cum Laude,** 2nd mentor
- *Marco Lam*, Creating the Medial Axis Transform for billions of LiDAR points, 3rd mentor
- *Damien Mulders,* Automatic repair of geometrically invalid 3D City Building models using voxels, 3rd mentor
- *Kaixuan Zhou,* Exploring Regularities for Facade Reconstruction from Point Clouds, 3rd mentor

2014-2015
- *Eva van der Laan*, An indoor positioning method using Bluetooth Low Energy Beacons, 3rd mentor
- *Xu Weilin*, An indoor positioning method using WiFi routers, 3rd mentor

Miscellaneous@4TU

2022-2023
- *Dennis Hollander (TU/e),* Design Space Exploration of 3D Concrete Printed Bridges*, 3rd mentor*
- *Ivan Cardenas (UT),* Urban Digital Twining for Solid Waste Management*,* **Cum Laude**, 2nd mentor
- *Fabian van der Poel (TUD),* Berth Location and Pathway Optimization of Port Basins*,* 3rd mentor
- *Aulia Imania (UT),* A Planning Support System for Building Integrated Photo-Voltaic Systems*,* 3rd mentor

2021-2022
- *Wen-Yu Chen (TUD)*, Generative Urban Design for Improving Transit Accessibility, 2nd mentor

International Workshop Instruction

2015
- Cityscape Configuration, eCAADe 2015, @TU Wien, with Philip Belesky (RMIT, AU)

2014
- Generative Syntax in Architecture and Urban Design in AAG 2014, @UCL, with Richard Schaffranek (TU Wien, AT)

2013
- URBAN DATASCOPE, eCAADe 2013, with Dr. Jose Nuno Beirao (TU Lisbon, PT) & Dr. Ahu Sokmenoglu (ITU, TK)
- Tarlabasi DATASCOPE @ITU, May 2013, with Dr. Jose Nuno Beirao (TU Lisbon, PT) & Dr. Ahu Sokmenoglu (ITU, TK)

2012
- Tutor of computational urban design in Measuring Urbanity Seminar & Workshops @TU Lisbon, May 2012

Research Funding

2022-2023
- **R-PLAN,** Planning Support for Remote Working Policies, Horizon Europe, 350K€, Contributor
- **GEOAID,** An MSc program for Geospatial Artificial Intelligence, Erasmus+ Horizon Europe, 70K€, Contributor

2020-2021
- **EquiCity,** Digital Serious Gaming for Participatory City Planning, Nederlandse Organisatie voor Wetenschappelijk Onderzoek (The Hague, Zuid Holland), NWA Idea Gen, ABV06G, (2020/10/01-2022/01/01), 50K€, Co-PI

2019-2020
- **GoDesign**, A Participatory Generative Design Game for Spatial Design, Ministerie van Onderwijs, Cultuur en Wetenschap (The Hague, Zuid Holland), Ontwerpkracht, AUT03G, (2019/05-2021/05), 30K€, PI

2018-2019
- **DynaBox**, Digital Design, KVWS (Rijssen), Contract (2019/04-2019/10), 11K€, PI

2017-2018
- **SpectraLearning**, Shape Recognition, Arup BV (Amsterdam), Contract (2017/10-2018/10), 7K€, PI

2014-2015
- **PanoramaMesh**, Procedural 3D Modelling, Cylomeida BV (Zaltbommel), Contract (14/07-14/09), 3K€, PI