

Curriculum Vitae, last updated on 08/11/2025



Biography	Pirouz Nourian, born in July 1981, based in The Hague
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
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Academic Degrees

2010-2016 thesis	Ph.D. in Urban Design Informatics, September 30, 2016 Graph Theoretical Methods for Design and Analysis of Spatial Configurations	Delft University of Technology	NL
2005-2009 thesis	M.Arch., September 15, 2009, Cum Laude Dynamics of Design Processes in conjunction with Construction Processes	Tehran University of Art	IR
1999-2004 track thesis	B.Sc. in Electrical Engineering, March 1, 2005 Major in Control Systems Engineering Design and Implementation of a Digital Control System in MATLAB, full mark	K.N. Toosi University of Technology	IR
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), Geospatial Python (intermediate), Grasshopper3D®(advanced), Rhinoceros3D®(advanced), AutoCAD, Depth Map, Microsoft Office, Git (basic), Markdown (advanced), LaTeX (intermediate), Vector Drawing, Carpentry, Research Software Engineering, 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 Luisig, Finished with Certificate and Compliments (Jun 7 till Sep 21, 2021) > TEACH: Trainer Ir. Alexia Luisig, 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),
Artificial Languages	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 (intermediate)

Selected Academic Committee Membership

2024-2026	▪ Co-chair: ISPRS WG IV/12, Grid Modelling for Full-space Integration and Calculation
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 (IBPSA) ▪ 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-Ugurly (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): ○ Automation in Construction, ○ Computer-Aided Design, ○ Environment and Planning B, ○ Transport and Geography Planning Practice Research, ○ ISPRS International Journal of Geo-Information, ○ Experimental & Theoretical Artificial Intelligence, ○ Sustainability
2015-2022	▪ <i>Member of Faculty Advisory Team, Solar Decathlon competition team MOR at TU Delft</i> ▪ Jury Member of The 11th European and Regional Planning Awards of ECTP-CEU Brussels, Jan-July 2016 ▪ Member of Review Committee: ○ 13th Space Syntax Symposium @ Western Norway University of Applied Sciences, June 2022 ○ 11th Space Syntax Symposium @Instituto Superior Technico, University of Lisbon, July 2017 ○ CAADence in Architecture, @ Budapest U of Tech. and Economics, Review Committee, June 2016 ○ 7th SimAUD Symposium @ UCL, Review Committee, May 2016 ○ 33rd eCAADe Conference, @TU Wien, Review Committee, September 2015 ○ 10th Space Syntax Symposium, Review Committee, @UCL, July 2015

Publications (more on [Pure](#) & [ResearchGate](#))

Digital Design/Planning Tools

- Since 2023
 - [COLLAGE PSS](#) (Planning Support System Development for Renewable Energy Planning in [CCTwente](#))
 - [VITALENS PSS](#) (Planning Support System Development for Water Infrastructure Planning [Vitens](#))
 - [BIOZEN PSS](#) (Planning Support System Development for Biomass Energy Planning) [BIOZE](#))
- 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

- 2023
 - [Digital Twinning Workbench](#): computational notebooks for 3D geospatial twinning of cities
- Since 2014
 - [RASTERWORKS](#): a computational library of methods for voxel and 3D raster models
- 2014-2015
 - [TOIDAR](#): Educational Toys for 3D reconstruction using LiDAR point clouds

Journal Articles

- 2025
 - Azadi, S., Kasraian, D., [Nourian, P.](#), van Wesemael, P., **Formalizing-modelling-utilizing ontology: A semantic framework for adaptive stakeholder-specific urban digital twins in urban planning processes**, *Environment and Planning B: Urban Analytics and City Science*, [\[URL\]](#)
 - Marçal Russo, L., Dane, G., Helbich, M., Ligtenberg, A., Filomena, G., Janssen, C. P., Koeva, M., [Nourian, P.](#), Patuano, A., Raposo, P., Thompson, K., Yang, S., & Verstegen, J. A. (2025). **Do urban digital twins need agents?** *Environment and Planning B: Urban Analytics and City Science*, [\[URL\]](#)
 - Azadi, S., Kasraian, D., [Nourian, P.](#), van Wesemael, P., **What Have Urban Digital Twins Contributed to Urban Planning and Decision Making? A Systematic Literature Review and a Socio-technical Research and Development Agenda** *Smart Cities*, [\[Preprint\]](#)[\[URL\]](#)
 - Jia, Z., [Nourian, P.](#), Luscueru, P., Wagenaar, C., **IFC2BCM: A Tool for Generating IndoorGML and Building Configuration Model from IFC**, *SoftwareX*, [\[URL\]](#)
 - Jia, Z., [Nourian, P.](#), Luscueru, P., Wagenaar, C., **A Configuration Model for Hospital Design Support Systems**, *Buildings*, [\[URL\]](#)
- 2024
 - [Nourian, P.](#), Azadi, S. **Voxel Graph Operators: Topological Voxelization, Graph Generation, and Derivation of Discrete Differential Operators from Voxel Complexes**. *Advances in Engineering Software*, [\[URL\]](#)[\[Preprint\]](#).
 - [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*, [\[URL\]](#)[\[Preprint\]](#).
 - Graham, P., [Nourian, P.](#), Warwick, E., Gath-Morad, M., **'Rightsize': a housing design game for spatial and energy sufficiency**, *Buildings and Cities*, [\[URL\]](#)
 - Azadi, S., Bai, N., [Nourian, P.](#), **Ergonomics of spatial configurations: a voxel-based modelling framework for accessibility and visibility simulations**, *Frontiers in Built Environment* [\[URL\]](#).
 - Wibisana, M.I., Koeva, M., [Nourian, P.](#), Petrova-Antonova, D., Karamitov, K., **A LiDAR-Based Digital Twinning Workflow for Traffic Monitoring and Simulation**, *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, [\[URL\]](#)
 - Iván Cárdenas-León, Koeva, M., [Nourian, P.](#), Davey, C., **Urban digital twin-based solution using geospatial information for solid waste management**, *Sustainable Cities and Society*, [\[URL\]](#)
 - La Guardia, M., Koeva, M., Díaz-Vilariño, L., [Nourian, P.](#), **Open-Source Solutions for Real-Time 3D Geospatial Web Integration**, *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* [\[URL\]](#)
 - Dane, G., Campoverde, C., [Nourian, P.](#), Koeva, M. **Real-Time Visibility Assessment in an Interactive Immersive Virtual Reality Application for Urban Public Space Design**, *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* [\[URL\]](#)
 - Bai, N., [Nourian, P.](#), Cheng, T., and Pereira Roders, A., **Semantics-enriched spatiotemporal mapping of public risk perceptions for cultural heritage during radical events**, *International Journal of Disaster Risk Reduction*, [\[URL\]](#)
 - Katontoka, M., Noardo, F., Palacios-Lopez, D. Esch, T., [Nourian, P.](#), Chen, F. Pereira-Rodgers, Ana, **No Report, No Densification? A Spatiotemporal Analysis of Urban Densification and Reporting Practices in World Heritage Properties**, *Land –Observation and Monitoring*, [\[URL\]](#)
- 2023
 - Bai, N., [Nourian, P.](#), Lou, R., Cheng, T., Pereira 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*, [\[URL\]](#)

- 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., Mirzikašvili, 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** The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences [\[URL\]](#)
- 2022 ▪ Bai, N., Nourian, P., Lou, R., Pereira 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, P., 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 Twinning 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

- 2025 ▪ Nourian, P., Azadi, S., **Participatory Generative Design Education: On cultivating collective intelligence in design and planning**, in Teaching Architecture, Ed. Remon Rooij, Roberto Carvalho, and Frank van der Hoeven, pp.18-31, [\[URL\]](#)
- 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, [\[URL\]](#) [\[Preprint\]](#).
- 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, [\[URL\]](#).
- 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 [\[URL\]](#)

- 2025 ■ Azadi, S., Kasraian, D., [Nourian, P.](#), van Wesemael, P., (2025). **Stakeholder-Specific Urban Digital Twins as Means for Participatory Planning Evaluation of the FMU Ontology**, CUPUM 2025, The 19th International Conference on Computational Urban Planning & Urban Management, in London, United Kingdom, [\[URL\]](#)
- 2024 ■ Cardenas, I., Koeva, M., Davey, C., [Nourian, P.](#), (2024). **Solid Waste In The Virtual World: A Digital Twinning Approach For Waste Collection Planning**, 18th International 3DGeoInfo Conference 2023 in Munich, Germany, [\[URL\]](#)
- 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.](#), Pereira 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.](#), Pereira 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

- 2025 ▪ Nourian, P. (2024), **Augmented Spatial Planning**, KIVI Innovation Event: Digital Twins in the Energy Transition [\[URL\]](#)
- 2024 ▪ Nourian, P. (2024), **Digitalization of Urban Planning: Augmented Urban Planning?**, genAI4Spatial workshop at Provincie Utrecht, [\[URL\]](#)
- 2023 ▪ Nourian, P. (2023), **Augmented Computational Design: Artificial Intelligence for Performance Based Architecture**, AI @AEC, University of Washington, [\[URL\]](#)[\[video\]](#)
- Nourian, P. (2023), **Digital Design Games: Reflections on Digital Design Games for Participatory Design**, @AGILE 2023, Delft University of Technology, [\[DOI\]](#)
- 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 Geoinformation Science and Earth Observation & MSc Spatial Engineering

- 2025-2026 ▪ ECIU-MSc Spatial Engineering Course Coordinator Planning and Spatial Decision Support Systems (WIP)
- 2024-2025 ▪ Module Developer for Mathematics of Artificial Intelligence, in Machine Learning for Geospatial Science
- Module Developer for [Augmented Urban Planning, in Urban Digital Twinning \(VU Amsterdam\)](#)
- 2023-2024 ▪ Workshop Tutor in [3D Modelling for City Digital Twins Based on Geospatial Information](#)
- GIS Tutor and Project Advisor in CORE [\(GIS and EO for Geospatial Solutions\)](#)

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

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|-----------|--|
| 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

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| 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

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|-----------|--|
| 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

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| 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

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| 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

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|-----------|---|
| 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 Co-promotor or daily supervisor)

- 2025-2029 ▪ [Oumayma Fegrouch](#), PhD Student, Gamified Digital Twins for Inclusive Housing Development, @UTwente, Industry Funding, admitted, started in Nov 2025
- 2025-2029 ▪ [Jiaxi \(Amber\) Shi](#), PhD Student, A Cyber-Physical Design Game for Participatory Urban Renewal @UTwente, CSC Funding, admitted, started in April 2025
- 2023-2027 ▪ [Ivan Leonardo Cardenas](#), PhD Candidate of Augmented Neighbourhood Planning Support, @University of Twente, Funding, Sector Plan Earth and Environmental Sciences, [doctoral examination passed in Jun 2024](#), WIP
- 2021-2025 ▪ [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, **A Hospital Design Support System: Addressing Hospital Layout Design Challenges in China**, [Defended on Oct 27, 2025](#) → Trainee urban planner in China
- 2019-2023 ▪ [Nan Bai](#) PhD Candidate of Heritage & Values, [Heritage Planning and Inclusiveness, a Social Network Analysis Perspective](#), [Defended on Oct 5, 2023](#), [HERILAND](#) Funding, [Cum Laude](#) → Assistant Prof @TU Delft, NL
- 2017-2022 ▪ [Cemre Çubukcuoğlu-Uğurlu](#) (started in 2017), PhD Candidate of Design Informatics, [Hospital Layout Design Optimization using Computational Architecture](#), Successfully [Defended on Jan 18, 2023](#) → Assistant Prof @Yashar University, TR
- 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](#) → Researcher @Sapienza Università di Roma, IT
- 2020-2021 ▪ [Deniz Erdem Okumus](#), 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](#) → Assistant Prof @Yildiz Technical University, TR

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 Turkan](#), [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 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, **1st Prize for the best Geomatics thesis in NL**
- 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
- 2014-2015 ▪ Kaixuan Zhou, [Exploring Regularities for Facade Reconstruction from Point Clouds](#), 3rd mentor
- 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

- 2025-2026 ▪ Rakibun Athid (UT-MSE), [A Planning Support System for Positive Energy Districts](#), 2nd mentor, WIP
- Dina Rakhimzhanova (UT-GEM) [A Policy Analysis tool for assessing the effectiveness of Nature Based Solutions](#), WIP
- 2024-2025 ▪ Dimas Rizqi Dwiaji (UT-MGEO) [A Planning Support System for Multi-Modal Transit Accessibility Improvement](#), WIP
- Kadambari Dakshindas (UT-MGEO), [Gamification Social Networking in Urban Life \(CU in TOSS GAME\)](#), 2nd mentor
- 2023-2024 ▪ Austin Singelton (UT-MSE), [Digital Twinning of 3D Air Quality Estimates for Early Warning Systems](#), 2nd mentor, WIP
- Aradhana Tripathy (UT-MGEO), [Planning Support System for Form-Based Codes](#), 2nd mentor
- Maulana Ikram Wibisana (UT-MEGO), [Local Digital Twins Framework for Data-Enhanced Traffic Simulation](#), 2nd mentor
- Amir Afzalinezhad (UT-MGEO), [A Digital Twin-Based Planning Support System for Urban Heat Island Mitigation](#), 2nd mentor
- 2022-2023 ▪ Dennis Hollander (TU/e), [Design Space Exploration of 3D Concrete Printed Bridges](#), 3rd mentor
- Ivan Cardenas (UT), [Urban Digital Twinning for Solid Waste Management](#), **Cum Laude**, 2nd mentor, **2nd Prize for the best Geomatics thesis in NL**
- 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

2025-2027	▪ Engineering Doctorate Scholarship , A Positive Energy District Planning Support System, 40K€, Design Mentor, Co-PI
2025-2027	▪ ECIU University Seed-Funding , Local Digital Twins and Planning Support Systems, 34K€, Curriculum Developer Co-PI
2025-2026	▪ VITALENS 2.0, Planning Support System for Water Provision Infrastructure, VITENS, 70K€, System Architect
2024-2027	▪ European Cityverses Uniting for Inclusiveness (CU) , Serious Game for Improving the Inclusion of Differently Abled Citizens in Urban Life, European Union and Rijksdienst voor Ondernemend Nederlands, 358K€, Game Designer, Co-PI
	▪ COLLAGE 2.0, Planning Support System for Renewable Energy Planning, Climate Centre UT, 50K€, System Architect
	▪ VITALENS 1.0, Planning Support System for Water Provision Infrastructure, VITENS, 50K€, System Architect
2022-2023	▪ BIOZEN, Planning Support System for Biogas Production Planning, Interreg, 50K€, System Architect
	▪ R-MAP , Planning Support for Remote Working Policies, Horizon Europe, 350K€, System Architect
	▪ 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, KWWS (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

Key Products

2024-2027	▪ R-Map: Participatory Policy Evaluation for Remote Working (Mathematical Modelling, GA# 101132497) , WIP-product
	▪ CU: European Cityverses Uniting for Inclusiveness (Game Design, co-funded by EU & RVO Digital Europe) , WIP-product
2023-2025	▪ BIOZEN PSS (Planning Support System Development for Biomass Energy Planning) BIOZE , funded by Interreg)
	▪ VITALENS PSS (Planning Support System Development for Water Infrastructure Planning, funded by Viten)
	▪ COLLAGE PSS (Planning Support System Development for Renewable Energy Planning, funded by CCTwente)
	▪ Digital Twinning Workbench computational notebooks for 3D geospatial twinning of cities
2019-2021	▪ topoGenesis : a python library of topological data structures and algorithms for voxel-based generative design
2012-2018	▪ RASTERWORKS a computational library of methods for voxel and 3D raster models
	▪ SYNTACTIC : a computational tool suite for analysing/designing architectural configurations
	▪ CONFIGURBANIST : a computational tool suite for analysing/designing urban configurations

Key publications

Games	▪ EquiCity Game: a mathematical serious game for participatory design of spatial configurations
Maths	▪ Voxel Graph Operators: voxelization, graph generation, & derivation of discrete differential/integral operators
Paradigms	▪ Generative Design: From Optimization to Customization (lecture notes, lecture)
AI & Design	▪ Augmented Computational Design (lecture notes, lecture)
Planning	▪ Augmented Urban Planning Framework (lecture notes, lecture)
Thesis	▪ CONFIGRAPHICS: Graph-Theoretical Methods for Design and Analysis of Spatial Configurations (PhD Dissertation)