Rohit Priyadarshi Sanatani

SM (Design and Computation)
SM (Electrical Engineering and Computer Science)
Massachusetts Institute of Technology (MIT), Cambridge, MA.

Basic Information:

Date of Birth: 29/06/1992
Nationality: Indian
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Professional Interests:

- Urban and geo-spatial big-data analytics
- Data-driven design assistance and decision support
- Machine learning - computer vision and natural language processing
- Data democratisation – frameworks for decentralised data collection

Educational Qualifications:

Sep 2023 – (pursuing)	**PhD in Computation and Advanced Urbanism** Massachusetts Institute of Technology (MIT) Leventhal Center for Advanced Urbanism (LCAU) Fellowship
Sep 2021 – June 2023	**Master of Science in Architecture Studies (Computation)** **Master of Science in Electrical Engineering and Computer Science** Massachusetts Institute of Technology (MIT) Merit Scholarship 2022-23 | Graduate Fellowship 2021-23 GPA 5.0/5.0
Jul 2015 – Jun 2017	**Master of Architecture (M.Arch) - Urban Design** CEPT University, Ahmedabad.
Jul 2010 – May 2015	**Bachelor of Architecture (B.Arch)** Indian Institute of Engineering Science and Technology (IIEST), Shibpur. All India Rank 2 – Graduate Aptitude Test in Engineering (GATE) 2015

Professional Experience (full-time affiliations in bold):

June 2023 – Aug 2023	**Research Affiliate** Senseable Dubai Lab (A collaboration between MIT Senseable City Lab and Dubai Future Foundation) Modelling of urban pedestrian route choices with respect to shading and air temperature, for enhancing walkability in Dubai.
Oct 2022 – June 2023	Research Assistant Senseable City Lab, Massachusetts Institute of Technology Deployment of computer vision models for large-scale visual analytics involving indoor and outdoor urban spaces. Machine learning for the predictive modelling of urban socio-economic attributes.

May 2022 – Jul 2022	**Summer Research - Data Science and Machine Learning** Spatio Metrics Inc., Cambridge, MA Worked on exploratory data analysis and the deployment of supervised machine learning models for the predictive simulation of health outcomes in hospital wards. Project funded by the National Science Foundation (NSF).
Feb 2022 – May 2022	Research Assistant Virtual Experience Design Lab, MIT
Sep 2021 – May 2022	Teaching Assistant Department of Architecture, MIT Courses assisted: 4.022 - Introduction to Building Techniques and Technologies, 4.567 – Introduction to Building Information Modelling (BIM)
Jul 2019 – Jul 2021	**Assistant Professor of Urban Design** School of Planning and Architecture (SPA), New Delhi, India Courses conducted: Decoding the Experience of an Indian City, Cities for Citizens, Research Methods, Urban History and Development Theory, Urban Form Lab, Digital Skills in Urban Design, Urban Design Studio.
Aug 2017 - Jul 2019	**Project Lead** Studio Lotus, New Delhi Design and development of a 500-acre residential township near Jaipur Master plan development for the Puri Temple complex precinct (design pitch). Design of a 10-acre urban leisure hub in Coimbatore
Jul 2016 – May 2017	Teaching Assistant CEPT University, Ahmedabad. Courses assisted: Introduction to Architectural Thinking, Introduction to Culture and Society.
Jan 2016 – Jul 2016	Research Assistant CEPT University, Ahmedabad. Fieldwork for collection and organization of historic data for ~ 200 urban roadside shrines.
Jun 2014 – Nov 2014	**Intern Architect |** Dulal Mukherjee and Associates, Kolkata

Academic and Professional Activities/Achievements:

2021	**Guest Reviewer |** University of Queensland Course: Urban Design: Micro Urbanism (UDAD7003)
2021	**Workshop Instructor |** Digital Futures 2021: Inclusive Futures Workshop title: 'Urban Safety: Crowd-sourced Data-driven Approaches using Machine Vision'.
2021	**Consultant |** Involved in the preparation of Form-Based Code guidelines for New Town, Kolkata
2020	**Peer reviewer |** International Journal of Architectural Computing

2018, 2022   **Guest Lecturer |** IIEST Shibpur
Lectures Delivered: Urban Evolution of Delhi (800s – 1900s), Introduction to the Theory(ies) of Architecture

2017 – 2019   **Heritage Walk Leader |** India Heritage Walks
Conducted walks focused around the urban evolution of medieval Delhi.

2015   **All India Rank 2 |** Graduate Aptitude Test in Engineering (GATE) 2015

List of Publications:

2023   Sanatani, R. P., Nagakura, T., 2023. *The Many Faces of the Metropolis: Unsupervised clustering of urban environments in Mumbai based on visual features as captured in city-wide street-view imagery.*, Proceedings of the 28th International Conference of the Association for Computer-Aided Architectural Design Research in Asia.

2022   Sanatani, R. P., Nagakura, T. and Tsai, D., 2022. *The Tourist's Image of the City: A comparative analysis of the visual features and textual themes of interest across three global metropolises.*, The Ibero-American Society of Digital Graphics (SIGraDi), 2022.

2022   Sanatani, R. P., 2022. *Democratizing Urban Data: A mobile-app based framework for rapid cataloging of geolocated street-level imagery.*, Proceedings of the 40th Education and research in Computer Aided Architectural Design in Europe (eCAADe) Conference, 2022.

2022   Sanatani, R.P., 2022. *Where would you stand on the subway? A Bayesian framework for modeling commuter positioning choices in simulated subway coaches.* Proceedings of the 44th Annual Conference of the Cognitive Science Society (CogSci 2022).

2021   Sanatani, R.P., Chatterjee, S.S. and Manna, I., 2021. *Subject-specific Predictive Modelling for Urban Affect Analysis.,* Proceedings of the 26th International Conference of the Association for Computer-Aided Architectural Design Research in Asia.

2020   Sanatani, R. P., 2020. *User-specific predictive affective modeling for enclosure analysis and design assistance.*, Proceedings of the 54th International Conference of the Architectural Science Association (ANZAScA) 2020.

2020   Sanatani, R. P., 2020. *A machine-learning driven design assistance framework for the affective analysis of spatial enclosures.*, Proceedings of the 25th International Conference of the Association for Computer-Aided Architectural Design Research in Asia. p.741.

2019   Sanatani, R.P. 2019. *An Empirical Inquiry into the Perceptual Qualities of Spatial Enclosures in Head Mounted Display Driven VR Systems - Quantifying the 'Intangibles' of Space.* Architecture in the Age of the 4th Industrial Revolution - Proceedings of the 37th eCAADe and 23rd SIGraDi Conference - Volume 3, University of Porto, Porto, Portugal, 11-13 September 2019, pp. 125-132

2019   Sanatani, R.P. 2019. *An Empirical Inquiry into the Affective Qualities of Virtual Spatial Enclosures in Head Mounted Display driven VR Systems.* Virtually Real: Immersing into the Unbuilt. Proceedings of the 7th eCAADe Regional International Symposium. Aalborg University Press, Aalborg.

Personal interests and activities:

Music   A classically trained violinist and pianist, playing since the age of six. Has performed as a part of the Kolkata Music Academy Chamber Orchestra in numerous major public concerts, as well as numerous All India Radio recordings. Recorded his first instrumental album in 2017 as a part of the 'Nomadic Three'

Writing   Has contributed a number of articles on various platforms, often focusing on lesser-known narratives within the history of Islamic architecture in North India. Also loves to write poems in both English as well as Bengali.