



Yogender Yadav

Nationality: Indian **Date of birth:** 20/06/1996 **Place of birth:** Rewari, India

Gender: Male **Phone number:** (+39) 3509081871

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LinkedIn: <https://www.linkedin.com/in/knappily/>

Website: <https://yogiiverse.com/>

Work: SDG 11 Lab, Viale Mattioli, 39 Politecnico di Torino, 10125 Torino (Italy)

ABOUT ME

As an expert in Urban Digital Twins, Point Clouds, and GeoInformatics, I specialize in creating dynamic 3D city models from Geospatial data and point clouds. My work focuses on developing comprehensive frameworks for employing point cloud data in complex urban environments.

WORK EXPERIENCE

Harvard University – Cambridge, United States

City: Cambridge | **Country:** United States | **Website:** <https://sdl.gis.harvard.edu/> | **Name of unit or department:** Spatial Data Lab (SDL)

Internship

[12/2024 – 05/2025]

- Worked on Windows and geometric features extraction from aerial and terrestrial point cloud combinations
- Worked on the development of Energy Digital Twins (EDT) for sustainable urban planning

University of New South Wales (UNSW) – Sydney, Australia

City: Sydney | **Country:** Australia | **Business or sector:** Education

Visiting Researcher

[11/2023 – 05/2024]

- Worked on the Implementation of Energy Digital Twins for the city of Torino
- Worked on designing a workflow for rooftop extraction from point clouds to aid solar panel installation and for the update of the facades of buildings

Indian Institute of Technology (IIT) – Roorkee, India

City: Roorkee | **Country:** India

Visiting Researcher

[05/2023 – 08/2023]

- Worked on the development of Urban digital twins with UAV-multi-sensor-based datasets and their update to time


Technical University in Zvolen – Slovakia

Country: Slovakia

Visiting Research Scholar (ERASMUS+)

[11/2021 – 04/2022]

- Worked on research project "Applications of Unmanned Aerial Vehicles (UAV) photogrammetry and iPhone LiDAR for the forestry applications"

 **Azercosmos** – Baku, Azerbaijan

City: Baku | Country: Azerbaijan

Internship

[08/2021 – 09/2021]

- Worked on project "Deforestation analysis of Tartar district in Azerbaijan with NDVI and random forest approach" with the Department of Earth Observation, Azercosmos

 **Zomato Media Pvt Ltd** – Chandigarh, India

City: Chandigarh | Country: India

Assistant Manager

[06/2019 – 07/2020]

- Led the B2B business team for the North India region from April'20 - July'20
- Managed the logistics operations in 20+ cities

 **Indian Institute of Remote Sensing (IIRS), Indian Space Research Organization (ISRO)** – Dehradun, India

City: Dehradun | Country: India

Internship

[05/2017 – 07/2017]

- Worked on generating a 3D Pointcloud by Structurefrom Motion-based CRP and TLS Techniques
- Worked on the assessment of the role of Ground Control Points in co-registration of CRP and TLS point clouds by point-pair selection methodology and automatic co-registration algorithm

EDUCATION AND TRAINING

Ph.D. Researcher

Politecnico di Torino [11/2022 – Current]

City: Torino | Country: Italy | Website: <https://www.polito.it> | Field(s) of study: Urban and Regional Development | Thesis: Landscape goes Digital: 3D model production and implementation of Digital Twins for innovative Landscape Management

Link: <https://www.polito.it/personale?p=098663>

Master of Science - M.Sc.

Faculty ITC, University of Twente [08/2020 – 07/2022]

City: Enschede | Country: Netherlands | Website: [itc.nl](https://itc.utwente.nl) | Field(s) of study: Geoinformation Science and Earth Observation with specialization in Geoinformatics | Final grade: 7.61/10.00 | Type of credits: ECTS | Number of credits: 120 | Thesis: Hybrid adjustment of UAS-based LiDAR and image data

Link: <https://essay.utwente.nl/92137/>

Bachelor of Technology in Civil Engineering

National Institute of Technology (NIT) [07/2015 – 06/2019]

City: Kurukshetra | Country: India | Website: <https://nitkkr.ac.in/> | Field(s) of study: Civil Engineering | Final grade: 7.92/10.00 | Type of credits: ECTS | Number of credits: 240 | Thesis: Effect of Search Methods on Feature Selection with Hyperspectral Data

LANGUAGE SKILLS

Mother tongue(s): Hindi

Other language(s):

English

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Python Language - Basic knowledge / 3D-Modelling / LIDAR, Photogrammetry, and UAV sensors and platforms / Digital Twins / Experience in MATLAB, python, and R / WEBSITE MANAGEMENT / scientific writing

PUBLICATIONS

[2024]

Urban Echoes: Exploring the Dynamic Realities of Cities through Digital Twins

Authors: Piero Boccardo, Luigi La Riccia and Yogender Yadav | Journal Name: Land 2024 | Volume, Issue and Pages: 13(5), 635

[2024]

UseGeo - A UAV-based multi-sensor dataset for geospatial research

Part of an ISPRS Scientific Initiative

Authors: Francesco Nex, Eleni K. Stathopoulou, Fabio Remondino, Michael Ying Yang, L. Madhuanand, Yogender Yadav, Bashar Alsadik, Martin Weinmann, Bernd Jutzi, Ruisheng Qin. | Journal Name: ISPRS Open Journal of Photogrammetry and Remote Sensing | Volume, Issue and Pages: Volume 13, August 2024, 100070

[2024]

Turin Digital Twins: Initiatives and Challenges

AIT conference 2023: Earth Observation: current challenges and opportunities for environmental monitoring

Authors: Luigi La Riccia, Vittorio Scolamiero, Yogender Yadav, Allegra Eusebio

[2024]

Aerial LiDAR and Infrared Thermography for Urban-Scale Energy Assessment and Planning

AIT conference 2023: Earth Observation: current challenges and opportunities for environmental monitoring

Authors: Sebastiano Anselmo, Maria Ferrara, Yogender Yadav, Piero Boccardo

[2024]

A Geodatabase Design for the Development of a Digital Twin for Urban Environments: A Case Study from Turin, Italy

ISPRS TC IV Symposium 2024 , Perth, Australia

Authors: Yogender Yadav, Elisabetta Colucci, Piero Boccardo, Sisi Zlatanova

[2024]

Development of 3D UDTs for Traffic Monitoring in Unreal 5 Game Engine

ISPRS TC IV Symposium 2024, Perth, Australia

Authors: David Crampen, Yogender Yadav, Shofia Ishar, Sisi Zlatanova, Wenwen Tian

[2024]

Evaluating the Potential of Nature-Based Solutions (NBS) and Solar Energy in Urban Built Environments with Aerial Photogrammetry Dataset

ISPRS TC IV Symposium 2024 , Perth, Australia

Authors: Sara Biancifiori, Yogender Yadav, Piero Boccoardo, Sisi Zlatanova, Sara Torabi Moghadam, and Adriano Bisello

[2024]

Assessing Photo-Voltaic Potential in Urban Environments: A Comparative Study between Aerial Photogrammetry and LiDAR Technologies

ISPRS TC IV Symposium 2024 , Perth, Australia

Authors: Yogender Yadav, Harshit, Sunni Kanta Prasad Kushwaha, Sisi Zlatanova, Piero Boccoardo, Kamal Jain

[2024]

A Data Model for Unrecognised Historical Neighbourhood (Case study: Telukbetung, Indonesia)

ISPRS TC IV Symposium 2024 , Perth, Australia

Authors: Shofia Ishar, Sisi Zlatanova, and Yogender Yadav

[2023]

Hybrid adjustment of UAS-based LiDAR and image data

ISPRS GeoSpatial Week 2023, Cairo, Egypt

Authors: Yogender Yadav, Bashar Alsadik, Francesco Nex, Fabio Remondino, Philipp Glira

[2023]

Integration of iPhone LiDAR with Quadcopter and fixed-wing UAV Photogrammetry for the Forestry Applications

2nd International GEOBENCH workshop, Krakow, Poland

Authors: Yogender Yadav, S. K. P. Kushwaha, Martin Mokros, Juliana Chudá, and M Pondelík

[2022]

Deforestation analysis using Random Forest and interactive supervised classification approach

11th IGRSM International Conference and Exhibition on Geospatial & Remote Sensing 2022

Authors: Yogender Yadav, Sona Guliyeva, Elman Alaksarov, Arunima Singh and S.K.P. Kushwaha

[2021]

Effect of Search Methods on Feature Selection with Hyperspectral Data

IEEE International Symposium on Geoscience and Remote Sensing (IGARSS 2021), Brussels, Belgium

Authors: Yogender Yadav, Mahesh Pal

[2020]

Deep neural network-based predictive modeling of road accidents

Authors: Gyanendra Singh, Mahesh Pal, Yogender Yadav & Tushar Singla | **Journal Name:** International Journal of Neural Computing & Applications

[2020]

Role of Ground Control Points (GCPs) in Integration of Terrestrial Laser Scanner (TLS) and Close-range Photogrammetry (CRP)

Book chapter : Lecture Notes in Civil Engineering book series (LNCE,volume 33)

Authors: Yogender Yadav, S. Raghavendra & S. K. P. Kushwaha

[2019]

A semi-automatic approach for roof-top extraction and classification from airborne lidar

Seventh International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2019)

Authors: S. K. P. Kushwaha, Yogender Yadav, Raghavendra S.

[2017]

Comparative Analysis of SfM Based CRP and TLS for 3D Modelling of Various Types of Surfaces

38th Asian Conference on Remote Sensing (ACRS 2017), New Delhi, India

Authors: Yogender Yadav, Raghavendra S.

NETWORKS AND MEMBERSHIPS

[2021 – Current]

IEEE Geosciences and Remote Sensing Society (GRSS)

[2022 – Current]

ISPRS Student Consortium

[2023 – Current]

CIPA Emerging Professionals (CIPA EP)

[2022 – Current]

International Society for Photogrammetry and Remote Sensing (ISPRS)

RECOMMENDATIONS

Name: Dr. Fabio Remondino | Research Advisor

Master's research thesis advisor

Email: remondino@fbk.eu

Name: Prof. Sisi Zlatanova | Research Advisor

PhD research thesis advisor

Email: s.zlatanova@unsw.edu.au

Name: Dr. Francesco Nex | Research advisor

Master's research thesis advisor

Email: f.nex@utwente.nl

Name: Prof. Piero Boccardo | Research Advisor

PhD research thesis advisor

Email: piero.boccardo@polito.it

Name: Dr. Bashar Alsadik | Research Advisor

Master's research thesis advisor

Email: b.s.a.alsadik@utwente.nl

Name: Dr. Martin Mokros | Internship Advisor

Master's research internship advisor

Email: m.mokros@ucl.ac.uk

Name: Dr. Mahesh Pal | Research Advisor

Bachelor's research thesis advisor

Email: mahesh.pal@nitkkr.ac.in

HONOURS AND AWARDS

[03/2025] IEEE GRSS

Travel award for IEEE GRSS HDCRS Summer School 2025

- Scholarship award by IEEE GRSS to attend High Performance and Disruptive Computing in Remote Sensing School 2025, 3-6 June 2025, Santiago de Compostela, Spain

[11/2024] The International Society for Photogrammetry and Remote Sensing (ISPRS)

Travel support for ISPRS TC III Symposium 2024 Belem, Brazil

- Travel support by ISPRS to present paper in ISPRS TC III Symposium in Belem, Brazil from 4-8 November 2024
- Represented ISPRS Student Consortium (ISPRS SC) in the symposium and managed the ISPRS SC booth during the symposium

[09/2023] The International Society for Photogrammetry and Remote Sensing (ISPRS)

Travel support for ISPRS Geospatial Week GSW 2023, Cairo Egypt

- Travel support by ISPRS to present paper in ISPRS GSW conference in Cairo, Egypt from 2-9 September 2023
- Represented ISPRS Student Consortium (ISPRS SC) at ISPRS SC youth forum for young students and researchers

[03/2023] Rotary International Association - District 2071 Tuscany and the Rotary Club Firenze Sud

CIPA 2023 Spring School Scholarship

- Scholarship award by Rotary International Association - District 2071 Tuscany and the Rotary Club Firenze Sud to attend CIPA Spring School 2023

[07/2020] University of Twente

ITC Excellence Scholarship

- Awarded with ITC Excellence Scholarship worth €40,000 for two years to pursue a Master in Geoinformation Science and Earth Observation

[09/2012] Government of India

Secondry Examination Scholarship

- Awarded a Scholarship worth INR 10,000 and an Excellence Certificate for being in the top 0.1 percentile of students who passed the School Secondary examination

VOLUNTEERING

[01/2025 – Current]

Co Chair - CIPA Emerging Professionals (CIPA EP)

- Selected as Co-Chair for CIPA Emerging Professionals for the term 2025-26
- Lead the group of young professionals from around the world, who are interested in photogrammetry and remote sensing for cultural heritage documentation

Link: <https://www.cipaheritagedocumentation.org/cipa-ep/>

[06/2024 – Current]

Social Media Ambassador - IEEE Geosciences and Remote Sensing Society (IEEE GRSS)

- Develop, implement, and manage the social media strategy for IEEE GRSS
- Oversee and manage all social media content for IEEE GRSS
- Stay current with the latest trends and best practices in social media.

[06/2022 – 01/2025]

Website Administrator - ISPRS Student Consortium

- Elected as Board of Directors in ISPRS Student Consortium (ISPRS SC) for the position of website administrator
- Managed the updates on the ISPRS SC website to Link students, young researchers, and professionals in different countries, who are interested in photogrammetry, remote sensing, and spatial information sciences

Link: <https://sc.isprs.org/about/board/>

[01/2021 – 12/2021] University of Twente Enschede Netherlands

Student Representative, Faculty ITC Council

- Elected as Student Representative for Faculty Council - the highest student governing body at Faculty ITC
- Represented student interests to the university authorities for year 2021

[07/2018 – 05/2019] Kurukshetra, India

Convener, Hiking and Trekking Club, National Institute of Technology (NIT)

- Selected as the Convener of the HTC club by a panel of professors for academic year 2018-19
- Planned the excursion and hiking trips for the faculty and Students from the university