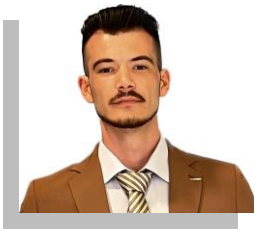
CURRICULUM VITAE

Date: August 22, 2025



PERSONAL DATA

Name	**Nicholas Fiorentini, Ph.D., P.E.**
Primary Affiliation	Department of Civil and Industrial Engineering (DICI), The University of Pisa, 56122, Pisa, Italy
E-mail	nicholas.fiorentini@ing.unipi.it
Nationality	Italian

PRESENTATION

Nicholas is a post-doctoral research associate affiliated with the Department of Civil and Industrial Engineering (DICI), University of Pisa, Italy. He mainly does research in Road Safety, Transportation Engineering, Project Appraisal, and Real Estate.

In **December 2015**, Nicholas obtained a **Bachelor's degree** in *Civil, Environmental and Construction Engineering* (curriculum: Civil) at the University of Pisa, Italy.

In **December 2017**, he got the **Master's degree** with honors in *Hydraulic Engineering, Transport and Territory* (curriculum: Transport and Territory) at the University of Pisa, Italy.

Nicholas got the **PhD title** with Summa cum Laude **on June 22, 2022**, at the "*International Doctorate in Civil and Environmental Engineering*", jointly organized by the University of Florence (IT), the University of Pisa (IT), and the Technische Universität Braunschweig (DE). He has been awarded with the additional title of Doctor Europaeus.

Since **October 2019**, he has been enrolled in the *Order of Engineers of Pisa, Civil and Environmental Engineering*. He carries out professional consultancy activities on road safety analyses, road design and construction, pavement management systems, transport planning, forensic engineering (accident reconstruction and road design).

Since **march 2018**, he is a **subsidiary lecturer** of "*Theory and Design of Road Infrastructures*" for the MSc course "*Engineering of Civil Infrastructures and Environment*", University of Pisa.

Since **march 2021**, he is a **contract professor** of "*Transport Terminals*" for the MSc course "*Engineering of Civil Infrastructures and Environment*", University of Pisa.

Since **march 2024**, he also support the MSc course "*Real Estate Appraisal and Valuation*".

As of May 2025, he published **22 scientific peer-reviewed papers and conference proceedings** (17 as first and corresponding author), receiving 418 citations on SCOPUS **(h-index of 8)** and 541 on Google Scholar **(h-index of 9)**. He also published 11 not-indexed research products, including international reports.

He was a speaker at **10 international and 7 national conferences**.

He actively participated in international and national projects, including a EU Horizon grant coordinated by the University of Pisa.

He is **Handling Editor** for *Transportation Research Record*. He is also **Topical Advisory Member** and **Guest Editor** for 3 special issues in *Remote Sensing* and *Infrastructures*.

He is a peer reviewer for (1) *Transportation Research Record*, (2) *International Journal of Pavement Engineering*, (3) *Safety Science*, (4) Heliyon, (5) *Remote Sensing*, (6) *Infrastructures*, (7) *ISPRS Journal of Geo-Information*, (8) *Applied Sciences*, (9) *Sustainability*, and many more.

PROFESSIONAL ORDERS

Since October 2019 — Enrolled in the Order of Engineers of Pisa, section A, Civil and Environmental Engineering, n°3717.

Since March 2023 — Member of the Transportation Committee of the Tuscany Regional Federation of Engineers

Since April 2025 — Enrolled in the Register of Technical Consultants of the Judge of the Court of Pisa, in the categories of Transport (road accidents, road infrastructure and road signs), accidents and injuries, and construction (parking).

EDUCATION

From September 2012 to December 2015 — **Bachelor's degree** in Civil, Environmental and Construction Engineering (L-7, curriculum: Civil) at the Università di Pisa.

From September 2015 to December 2017 — **Master's degree** with honors in Hydraulic Engineering, Transport and Territory (LM-23, curriculum: Transport and Territory) at the University of Pisa.

From November 2018 to January 2022 — **PhD title** with Summa cum Laude at the "International Doctorate in Civil and Environmental Engineering", jointly organized by the University of Florence (IT), the University of Pisa (IT), and the Technische Universität Braunschweig (DE).

Since December 2023 — **National Scientific qualification as associate professor** in the Italian higher education system for the disciplinary field of 08/A3 - Infrastructural and transportation engineering, real estate appraisal and investment valuation.

TEACHING EXPERIENCE

Since Academic Year 2018-2019 To Academic year 2021-2022 — **Didactic-integrative activities, tutoring, and recovery activities** for student for the courses "Theory of Road Infrastructures" and "Theory and Project of Road Infrastructures", activated in the master's degree in Engineering of Civil Infrastructures and Environment at the University of Pisa.

Since Academic Year 2022-2023 — **Subsidiary lecturer** for the courses "Theory and Project of Road Infrastructures", activated in the master's degree in Engineering of Civil Infrastructures and Environment at the University of Pisa.

Since Academic Year 2020-2021 — **Contract professor** for the teaching "Transport Terminals", activated in the master's degree program in Engineering of Civil Infrastructures and Environment at the University of Pisa.

Since Academic Yea 2023-2024 — **Subsidiary lecturer** for the courses "Real Estate Appraisal and Valuation", activated in the master's degree in Civil Engineering-Architecture at the University of Pisa.

AFFILIATIONS TO SCIENTIFIC ASSOCIATIONS

Since 2021 — Member of the Scientific Association of Transport Infrastructures (ASIT)

Since 2023 — Member of the Italian Association for the Traffic and Transport Engineering (AIIT)

Since 2023 — Secretary of the Tuscany Section of AIIT

Since 2024 — Member of the Italian Society of Real Estate Appraisal and Evaluation (SIEV)

PARTICIPATION IN RESEARCH PROJECTS FUNDED BY NATIONAL AND INTERNATIONAL BODIES

From March 2018 to June 2019

CMRSS - *Regional Road Safety Monitoring Center*
Partners: University of Pisa, University of Florence, Tuscany Region (funding body).
Role: Member of the working group of the University of Pisa research unit.

From November 2018 to October 2021

PRIN 2017 EXTRA TN - *Extended resilience analysis of transport networks: Towards a simultaneously space, aerial and ground sensed infrastructure for risks prevention* - Prot. 20179BP4SM.
Role: Member of the working group of the University of Pisa research unit

From May 2020 to December 2022

PRA2020 (Progetti di Ricerca di Ateneo) S-SUPER – *SMART AND SUSTAINABLE USE PHASE OF EXISTING ROADS.*
Role: Member of the working group of the University of Pisa research unit

Since July 2022

Horizon 2020 DESIRA - *Digitization: Economic and Social Impacts in Rural Areas* (https://desira2020.eu) Project ID: 818194.
Role: Member of the working group of the University of Pisa research unit and of the National Research Council - Institute of Information Science and Technologies (ISTI) "A. Faedo".

From January 2023 to February 2026

FAIR – Future AI Research – Spoke 1. Human Centered AI (with CNR, UNIPI, SNS, S.Anna, IMT, UNIFI, UNISI), Group 3, WP1, CPD-IA. *Digital Heritage Classification through Artificial Intelligence: automatic systems for the digital transition of 2D/3D data obtained from the survey of the existing.*

Since July 2024 (ongoing)

ECO-GESSTRA – *Eco-sustainable use of Red Chalks.*
Ruolo: Member of the working group of the University of Pisa research unit

JOURNAL PAPERS AND CONFERENCE PROCEEDINGS (INDEXED IN SCOPUS DATABASE)

1
Journal Paper

Bressi, S., **Fiorentini, N.**, Huang, J., Losa, M. Crumb rubber modifier in road asphalt pavements: State of the art and statistics (2019), *Coatings*, 9 (6), art. no. 384.
https://doi.org/10.3390/COATINGS9060384

2
Journal Paper

Fiorentini, N., Losa, M. Handling Imbalanced Data in Road Crash Severity Prediction by Machine Learning Algorithms (2020), *Infrastructures*, 5 (7), art. no. 61.
https://doi.org/10.3390/infrastructures5070061

3
Journal Paper

Fiorentini, N., Losa, M. Long-term-based road blackspot screening procedures by machine learning algorithms (2020), *Sustainability* (Switzerland), 12 (15), art. no. 5972.
https://doi.org/10.3390/su12155972

4
Conference Proceeding

Fiorentini, N., Maboudi, M., Losa, M., Gerke, M. Assessing resilience of infrastructures towards exogenous events by using PS-InSAR-based surface motion estimates and machine learning regression techniques (2020), *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 5 (4), pp. 19-26c https://doi.org/10.5194/isprs-annals-V-4-2020-19-2020

5
Journal Paper

Fiorentini, N., Maboudi, M., Leandri, P., Losa, M., Gerke, M. Surface motion prediction and mapping for road infrastructures management by PS-InSAR measurements and machine learning algorithms (2020), *Remote Sensing*, 12 (23), art. no. 3976, pp. 1-60.
https://doi.org/10.3390/rs12233976

6 Journal Paper

Fiorentini, N., Maboudi, M., Losa, M. Can machine learning and PS-InSAR reliably stand in for road profilometric surveys? (2021), *Sensors*, 21(10), 3377. https://doi.org/10.3390/s21103377

7 Conference Proceeding

Fiorentini, N., Leandri, P., Losa, M. Predicting international roughness index by deep neural networks with Levenberg-Marquardt learning algorithm (2021), *Proceedings of the SPIE – The International Society for Optical Engineering*, 11863, art. no. 118630P. https://doi.org/10.1117/12.2598005

8 Journal Paper

Fiorentini, N., Leandri, P., Losa, M. Defining machine learning algorithms as accident prediction models for Italian two-lane rural, suburban, and urban roads (2022), *International Journal of Injury Control and Safety Promotion*. https://doi.org/10.1080/17457300.2022.2075397

9 Journal Paper

Fiorentini, N., Pellegrini, D., Losa, M. Overfitting Prevention in Accident Prediction Models: Bayesian Regularization of Artificial Neural Networks (2023), *Transportation Research Record: Journal of the Transportation Research Board*. https://doi.org/10.1177/03611981221111367

10 Book Chapter

Fiorentini, N., Cuciniello, G., Leandri, P., Losa, M. Definition of a Low-Cost Pavement Management Method based on a Dual Analytic Hierarchy Process (2023), *Roads and Airports Pavement Surface Characteristics, Proceedings of the 9th Symposium on Pavement Surface Characteristics (SURF 2022, 12 – 14 September 2022, Milan, Italy)*, https://doi.org/10.1201/9781003429258-48

11 Journal Paper

de Leon, G., **Fiorentini, N.**, Leandri, P., Losa, M. A New Region-Based Minimal Path Selection Algorithm for Crack Detection and Ground Truth Labeling Exploiting Gabor Filters (2023), Remote Sensing, 15(11), 2722, https://doi.org/10.3390/rs15112722

12 Journal Paper

Fiorentini, N., Huang J., Cuciniello, G., Leandri, P., Losa, M. Comparing the performance of historical and regular stone pavement structures in urban trafficked areas through Finite Element Method (FEM) (2023), 8(7), *Infrastructures*, https://doi.org/10.3390/infrastructures8070115

13 Conference Proceeding

Latini, D., Clementini, C., De Santis, D., Del Frate, F., Gagliardi, V., Bianchini Campoli, L., D'Amico, F., Benedetto, A., Fiani, M., Di Benedetto, A., Leandri, P., **Fiorentini, N**. A Concurrent Approach for Infrastructure Monitoring and Risks Prevention Using Space, Aerial and Ground Measurements, *IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium*, Pasadena, CA, USA, 2023, pp. 6334-6337, https://doi.org10.1109/IGARSS52108.2023.10282560

14 Conference Proceeding

Fiorentini, N., Bacco, M., Ferrari, A., Rovai M., Brunori G. Remote Sensing and Machine Learning for Riparian Vegetation Detection and Classification, *MetroAgriFor 2023 – 2023 IEEE International Workshop on Metrology for Agriculture and Forestry*, Pisa, IT, November 6-8, 2023, pp. 369-374, https://doi.org10.1109/MetroAgriFor58484.2023.10424205

15 Conference Proceeding

Lepore F., Ortolani, L., Ferrari A., **Fiorentini, N.**, Mannari, C., Bacco, M., Brunori, G. Co-Design and e-Governance Tools for Sustainable Land and Water Management in Rural Areas: The Experience Within the DESIRA H2020 Project, *MetroAgriFor 2023 – 2023 IEEE International Workshop on Metrology for Agriculture and Forestry*, Pisa, IT, November 6-8, 2023, , pp. 25-30, https://doi.org10.1109/MetroAgriFor58484.2023.10424263

16 Journal Paper

Huang, J., Tian, Q., Su, Z., **Fiorentini, N**., Zhou, J., Luo, H., Lu, Y., Xu X., Chen, C. Ensemble learning models to predict the compressive strength of geopolymer concrete: a comparative study for geopolymer composition design (2024), *Multiscale and Multidisciplinary Modeling, Experiments and Design,* Springer Nature, https://doi.org/10.1007/s41939-023-00303-4

17 Journal Paper

Fiorentini, N., Mariotti, D., Rovai M. Defining Risk Curves in feasibility analyses of urban regeneration projects with Monte Carlo method (2024), *Valori e Valutazioni*. https://doi.org/10.48264/VVSIEV-20243609

18 Journal Paper

Fiorentini, N., Losa, M. Investigating unobserved heterogeneity in factors of fatal and injury crashes across Italian secondary road networks: Fixed and random parameters approach (2025), *Transportation Research Interdisciplinary Perspective. https://doi.org/10.1016/j.trip.2025.101344*

19 Editorial

Fiorentini, N., Losa, M. Road Detection and Monitoring Using Remotely Sensed Data (2025), *Remote Sensing.* https://doi.org/10.3390/rs17050917

20 Conference Proceedingv

Fiorentini, N., Rovai M. Benefits of low-cost GIS-based tools for evaluating ecosystem services of urban green spaces (2025). *Springer Communications in Computer and Information Science Series*. (it will be indexed in Scopus soon)

21 Journal Paper

Fiorentini, N., Losa, M. Developing Safety Performance Functions to inform transport policies on urban two-lane roads (2025). *Research in Transportation Business & Management.* https://doi.org/10.1016/j.rtbm.2025.101357

22 Journal Paper

Fiorentini, N., Moriani, M., Rovai M. Balancing Public and Private Interests in Urban Transformations: Handling Uncertainty with the Monte Carlo Method (2025). *Real Estate* (it will be indexed in Scopus in 2026) https://doi.org/10.3390/realestate2020003

CONFERENCE PROCEEDINGS (NOT INDEXED IN SCOPUS DATABASE)

1 Abstract in Conf. Proc.

Fiorentini, N., Leandri, P., Losa, M. Evaluating Resilience of Infrastructures Towards Endogenous Events by Non-Destructive High-Performance Techniques and Machine Learning Regression Algorithms. In: European Geosciences Union (EGU) 2020. https://doi.org/10.5194/egusphere-egu2020-21183

2 Conference Proceeding

Fiorentini, N., Cuciniello, G., Leandri, P., Huang, J., Losa, M. Comparing the performance of historical and regular stone pavement structures through Finite Element Method (2022). In: 5th International Conference on Transportation Infrastructure – ICTI 2022, Lima, Perù.

3 Conference Proceeding

Fiorentini, N., Bacco, M., Ferrari, A., Rovai, M., Brunori, G. (2024). Riparian Vegetation Mapping with DeepForest: Costs and Benefits of a New End-to-End Operational Procedure. In: The National Conference of Geomatic and Geographic Information (ASITA 2024), Padua, 9 – 13 Dicembre 2024.

4 Conference Proceeding

Fiorentini, N., Losa, M. Evaluating risk factors of severe crashes on Italian urban roads through novel Safety Performance Function and Crash Modification Factors (2024), In: AIIT 4th International Conference on Transport Infrastructure and Systems (TIS ROMA 2024), 19th - 20th September 2024, Roma.

5 Conference Proceeding

Fiorentini, N., Perilli, N., Squeglia, N., Losa, M. A participatory framework for identifying landslide-prone areas in road asset management: AHP supporting Machine Learning (2025), In: The 7th Euro-Mediterranean Conference for Environmental Integration (EMCEI-2025), 23-26 June 2025.

6 Conference Proceeding

Fiorentini, N., Losa. M. Assessing collision risk with unpredictable obstacles on transportation infrastructures (2025), In: IF CRASC 25, VI Conference on Forensic Engineering, IX Conference on Failures, Structural Reliability and Consolidation, University of Naples Federico II, 15–17 July 2025

FURTHER PUBLICATIONS (REPORTS AND NATIONAL JOURNALS)

1

Fiorentini, N., Losa, M. Metodologie a basso costo di implementazione per attività di screening di reti infrastrutturali. *Strade & Autostrade*, 143, 2020.

2

Fiorentini, N., Losa, M. Come l'intelligenza artificiale rende le strade più sicure. *Strade &* Autostrade, 159, 2022

3

Fiorentini, N., Losa M. Synthesis Report on Safety-Related Papers presented at the 103rd TRB Annual Meeting, Chapter 3 Network Screening (2023). Sponsored by TRB Standing Committees

ACS10 – Transportation Safety Management Systems and ACS20 – Safety Performance Analysis

4 **Fiorentini, N.,** Losa M. Synthesis Report on Safety-Related Papers presented at the 104th TRB Annual Meeting, Chapter 3 Network Screening (2024). Sponsored by TRB Standing Committees ACS10 – Transportation Safety Management Systems and ACS20 – Safety Performance Analysis

ONGOING RESEARCH (UNDER REVIEW ARTICLES, ACCEPTED PAPERS, ETC.)

1 **Fiorentini, N.**, Losa. M. Safety evaluation of emergency refuge areas (lay-bys) on highways: A cross-sectional study with Correlated Random Parameters Models (2025), *Reliability Engineering & System Safety*. (**Under review**)

2 **Fiorentini, N.**, Bacco, M., Ferrari, A., Rovai M., Brunori G. Evaluating costs and benefits of riparian vegetation mapping through an adapted DeepForest Algorithm (2025), *Remote Sensing* (**Under Review**).

3 Peresinotto, D., **Fiorentini, N.**, Losa, M. Balancing Safety and Economic Objectives in Rural Two-Lane Roads: A Novel Framework for Rethinking Roadway Width Treatments (2025), *Multimodal Transportation* (**Under review**)

4 Wang, C., **Fiorentini, N.**, Riccardi, C., Losa. M. Data-driven road traffic safety modeling: A comprehensive literature review (2025), *European Transport Research Review* (***Under Review***).

5 Wang, C., Riccardi, C., **Fiorentini, N.**, Losa. M. A Spatio-Temporal Transformer Framework for Real-Time Traffic Congestion Prediction (2025), *Multimodal Transportation* (**Under Review**)

EDITORIAL ACTIVITIES

Handling Editor

1 Transportation Research Record (TRR): Journal of the Transportation Research Board (TRB), SAGE Journals, ISSN: 0361-1981.
Activities: first decision, selecting and inviting reviewers, evaluating reviewers' reports.

Guest Editor

1 Remote Sensing, ISSN: 2072-4292, Multidisciplinary Digital Publishing Institute. Special Issue: *"Road Detection, Monitoring and Maintenance Using Remotely Sensed Data"*
Activities: inviting authors, sponsoring, first decision, selecting and inviting reviewers, evaluating reviewers' reports.

2 Infrastructures, ISSN: 2412-3811, Multidisciplinary Digital Publishing Institute. Special Issue: Road Safety and Pavement Characteristics: "*Defining Novel Safety Performance Functions and Crash Modification Factors*"
Activities: inviting authors, sponsoring, first decision, selecting and inviting reviewers, evaluating reviewers' reports.

3 Remote Sensing, ISSN: 2072-4292, Multidisciplinary Digital Publishing Institute. Special Issue: *"Road Detection and Monitoring Using Remotely Sensed Data – Part II"".*
Activities: inviting authors, sponsoring, first decision, selecting and inviting reviewers, evaluating reviewers' reports.

Topical Advisory Panel member

1	Infrastructures, ISSN: 2412-3811, Multidisciplinary Digital Publishing Institute Activities: proposing topic collections, proposing special issues, reviewing papers.
2	Remote Sensing, ISSN: 2072-4292, Multidisciplinary Digital Publishing Institute. Activities: proposing topic collections, proposing special issues, reviewing papers.

REVIEWER ACTIVITIES

1	Safety Science (Q1), Elsevier, n. 2 reviews
2	Transportation Research Record (Q2), SAGE Journals, ISSN: 0361-1981, n. 8 reviews
3	Infrastructures (Q2), ISSN: 2412-3811, Multidisciplinary Digital Publishing Institute, n. 1 review
4	Remote Sensing (Q1), Multidisciplinary Digital Publishing Institute, ISSN: 2072-429, n. 3 reviews
5	International Journal of Pavement Engineering (Q1), Taylor&Francis, n. 1 review
6	Transportation Research Board (TRB) Annual Meetings, Washington DC, USA, concerning the following Standing Committees (n. 5 reviews): • Standing Committee on Occupant Protection (ANB45); • Standing Committee on Transportation Safety Management Systems (ACS10); • Standing Committee on Safety Performance and Analysis (ACS20); • Standing Committee on Extreme Weather and Climate Change Adaptation (AMR50);
7	Applied Sciences (Q1), ISSN: 2076-3417, Multidisciplinary Digital Publishing Institute, n. 1 review
8	The 9th Symposium on Pavement Surface Characteristics (SURF22), Milano, Italy, n. 5 reviews
9	ISPRS International Journal of Geo-Information (Q2), Multidisciplinary Digital Publishing Institute, ISSN: 2220-9964, n. 2 reviews
10	Sustainability (Q1), Multidisciplinary Digital Publishing Institute, ISSN: 2071-1050, n. 5 reviews
11	Heliyon (Q1), Elsevier, n.1 revision
12	Transportation Research Part A: Policy and Practice (Q1), Elsevier, n. 1 revision

PARTICIPATION AS SPEAKER AT CONFERENCES, CONGRESSES, AND SEMINARS

October 2017 National Seminar	Osservatorio Regionale sulla Sicurezza Stradale (ORSS), Florence, Italy. Title of the presentation: "*La gestione della sicurezza stradale. Un approccio preventivo per la gestione della rete stradale di competenza regionale*"
March 2020 International Conference	European Geosciences Union (EGU), Vienna, Austria. Title of the presentation: "Evaluating Resilience of Infrastructures Towards Endogenous Events by Non-Destructive High-Performance Techniques and Machine Learning Regression Algorithms"
June 2020 International Congress	International Society for Photogrammetry and Remote Sensing (ISPRS) XXIV Congress, Nice, France. Title of the presentation: "*Assessing resilience of infrastructures towards exogenous events by using ps-insar-based surface motion estimates and machine learning regression techniques*"
July 2021 National Seminar	Associazione Scientifica Infrastrutture Trasporto (ASIT), Online. Le innovazioni nella ricerca nelle infrastrutture stradali. Title of the presentation: "*Algoritmi di machine learning e analisi geostatistiche per l'analisi della resilienza delle infrastrutture*"
September 2021 International Conference	The International Society for Optical Engineering (SPIE), Earth Resources and Environmental Remote Sensing/GIS Applications XII, Madrid, Spain. Title of the presentation: "*Predicting international roughness index by deep neural networks with Levenberg-Marquardt learning algorithm*"
January 2022	Transportation Research Board (TRB) 101st Annual Meeting, Washington D.C., USA.

International Conference	Title of the presentation: "*Overfitting Prevention in Accident Prediction Models: Bayesian Regularization of Artificial Neural Networks*"
September 2022 International Conference	SURF2022 – The 9th Symposium on Pavement Surface Characteristics, Milano, Italia. Title of the presentation: "*Definition of a Low-Cost Pavement Management Method based on a Dual Analytic Hierarchy Process*"
January 2023 International Conference	Transportation Research Board (TRB) 102nd Annual Meeting, Washington D.C., U.S.A. Title of the presentation: "*Investigating Unobserved Heterogeneity in Factors of Severe Crashes across Italian Two-lane Roads: Fixed and Random Parameters Approach*"
August 2023 International Conference	The 5th International Conference on Transportation Infrastructure (ICTI) 2022, Lima, Perú. Title of the presentation: "*Comparing the performance of historical and regular stone pavement structures through Finite Element Method*"
November 2023 International Conference	MetroAgriFor 2023 – 2023 IEEE International Workshop on Metrology for Agriculture and Forestry, Pisa, IT, November 6-8, 2023. Title of the presentation: "Remote Sensing and Machine Learning for Riparian Vegetation Detection and Classification"
May 2024 Invited speaker in National Conference	Lowland Management in the Light of Climate Change. Synergy between Consorzi di Bonifica and University of Pisa, Pisa, IT. Presentation entitled: "*Riparian Vegetation Mapping through DeepForest: Costs and Benefits of a New End-to-End Operating Procedure*"
September 2024 International Conference	AIIT 4th International Conference on Transport Infrastructure and Systems (TIS ROMA 2024), 19th - 20th September 2024, Rome, IT. Presentation entitled: "*Evaluating risk factors of severe crashes on Italian urban roads through novel Safety Performance Function and Crash Modification Factors*"
September 2024 Invited speaker in National Conference	European Mobility Week, Florence, Italy. Presentation entitled: "*Stone Paving for Sustainable Mobility in Historic Centers*"
December 2024 National Conference	The National Conference of Geomatic and Geographic Information (ASITA 2024), Padua, Italy, 9 – 13 Dicembre 2024. Presentation 1 entitled: "*Riparian Vegetation Mapping with DeepForest: Costs and Benefits of a New End-to-End Operational Procedure*". Presentation 2 entitled: "*Bebefits of low-cost GIS-based tools for evaluating ecosystem services of urban green spaces"*
March 2025 Invited speaker in National Conference	Verona Paving Show & Congress, Verona, 12-13 Marzo 2025. Presentation entitled: *"Artificial Intelligence to support decision-making processes in infrastructure. Monitoring, Maintenance, Security"*
May 2025 International Conference	INSPIRE 2025 – "Improving Nature-Smart Policies through Innovative Resilient Evaluations", Napoli, 29-30 maggio 2025. Presentation entitled: "*Balancing public and private interests in urban transformations: Handling uncertainty with the Monte Carlo Method*"
June 2025 International Conference	The 7th Euro-Mediterranean Conference for Environmental Integration (EMCEI-2025), 23-26 June 2025. Presentation entitled: *A participatory framework for identifying landslide-prone areas in road asset management: AHP supporting Machine Learning* (2025)
July 2025 International Conference	IF CRASC 25, VI Conference on Forensic Engineering, IX Conference on Failures, Structural Reliability and Consolidation, University of Naples Federico II, 15–17 July 2025. Presentation entitled: Assessing collision risk with unpredictable obstacles on transportation infrastructures

AWARDS

1 Best Paper Award for the paper: **Fiorentini, N**., Cuciniello, G., Leandri, P., Losa, M. Definition of a Low-Cost Pavement Management Method based on a Dual Analytic Hierarchy Process (2022), The 9th Symposium on Pavement Surface Characteristic (SURF22), Milan, Italy September 2022

2 Best Paper Winner for the paper: **Fiorentini, N**., Cuciniello, G., Leandri, P., Huang, J., Losa, M. Comparing the performance of historical and regular stone pavement structures through Finite Element Method, The 5th International Conference on Transportation Infrastructure – ICTI 2022, Lima, Perú, Agosto 2022.

3 Best Paper Award for the paper: **Fiorentini, N.**, Bacco, M., Ferrari, A., Rovai, M., Brunori, G. (2024). *Riparian Vegetation Mapping with DeepForest: Costs and Benefits of a New End-to-End Operational Procedure*, The National Conference of Geomatic and Geographic Information (ASITA 2024), Padua, Italy, Dicembre 2024

ACTIVITY AS THESIS SUPERVISOR OR CO-SUPERVISOR

1 Co-Supervisor of Master's thesis in Engineering of Civil Infrastructure and Environment
Candidate: Diletta Pellegrini
Supervisors: Prof. Massimo Losa, Dr. Nicholas Fiorentini, Ph.D.
Title: "Development of an accident prediction model for Italian four-lane divided roads"
Years 2019-2020

2 Co-Supervisor of Bachelor's thesis in Civil and Environmental Engineering
Candidate: Matteo Moriani
Supervisors: Prof. Massimo Rovai, Dr. Nicholas Fiorentini, Ph.D.
Title: Evaluation of the transformation value of building areas with the application of the Monte Carlo method
Years 2021/2022

3 Co-Supervisor of Master's thesis in Engineering of Civil Infrastructure and Environment
Candidate: Daniele Peresinotto
Supervisors: Prof. Massimo Losa, Dr. Nicholas Fiorentini, Ph.D.
Title: "Impact assessment on road safety of alternative connections between the Garfagnana and Versilia areas"
Years 2023/2024

CERTIFICATIONS

July 2015 Safety Coordinator in the Design and Execution of Works, issued by the Department of Civil and Industrial Engineering, University of Pisa, following the course with final exam "Construction and safety of construction sites", 120 hours.

September 2017 Course with certification for "*Autocad CIVIL3D 2017 software*", issued by the Autodesk Authorized Training Center (ATC), 24 hours.

February 2022 Course with certificate for "*Reconstruction of road accidents*", activated in the master's degree course in Vehicle Engineering, University of Pisa, 60 hours.

July 2022 Certification of the achievement of 24 university training credits (CFU) in the anthropo-psycho-pedagogical field and teaching methodologies and technologies (PF24) at the University of Pisa.

SOFTWARES

1	AutoCAD CIVIL3D 2025 (+ Country Kit Italy + Vehicle Tracking 2023)
2	Autodesk InfraWorks 2025
3	AIMSUN Next 22.0.1
4	ESRI ArcGIS 10.8
5	QGIS Desktop 3.26
6	IBM SPSS 25
7	NLOGIT 6
8	MATLAB R2024
9	MS Office (Excel, Outlook, PowerPoint, Word, Teams)

NATIVE LANGUAGE ITALIAN

OTHER LANGUAGES

ENGLISH

Reading Ability	C1
Writing Ability	C1
Oral Expression	C1

RESEARCH INTERESTS

The research areas of interest include the design of road infrastructures, design of road pavement structures, road safety, accident analysis, hydrogeological and geomorphological risk analysis, non-destructive satellite, terrestrial and subsoil surveys for linear infrastructures (Unmanned Aerial Vehicles, Falling Weight Deflectometer, Laser Profiler, Ground Penetrating Radar, Satellite Interferometry), benefit-cost analyses of public and private investments in the field of infrastructure and real estate, statistical analysis, advanced statistical and econometric models, machine and deep learning algorithms.

LINKS

The research of Nicholas and his scientific activities are documented detailly at the following links:

SCOPUS	https://www.scopus.com/authid/detail.uri?authorId=57210175329
Research Gate	https://www.researchgate.net/profile/Nicholas-Fiorentini
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