



PEYMAN ASMARI

📞 Phone number: (+39) 3791375475 ✉ Email address: asmari.peyman@gmail.com

🌐 LinkedIn: [Peyman Asmari](#)

📍 Home: Rome (Italy)

ABOUT ME

I am a PhD student in Infrastructure and Transport Engineering at Sapienza University of Rome, with a strong academic background in railway and transport systems, supported by a Master's degree with a GPA of 103/110. My research focuses on railway operations, delay propagation, timetable robustness, capacity analysis, and simulation-based decision support. Alongside my doctoral studies, I work in industry on simulation and digital twin projects for transport and logistics systems, where I apply modelling, data analysis, and operational assessment methods to support more efficient and resilient transport operations.

I also have previous experience in transport planning and traffic modelling, gained during my bachelor's studies through professional work in a consulting environment. Throughout my academic and professional path, I have developed strong adaptability, teamwork, problem-solving, and creative thinking skills. I am motivated by complex transport challenges and interested in combining engineering knowledge, simulation tools, and data-driven methods to improve the performance of real-world mobility systems.

WORK EXPERIENCE

🏢 **DITS srl** – Rome, Italy

Transport engineer

[01/05/2024 – Current]

- Development of simulation and digital twin models for transport and logistics systems.
- Modelling of railway, port, and multimodal terminal operations.
- Analysis of operational processes, infrastructure use, delays, and system performance.
- Implementation and testing of simulation logic for resource allocation and movement management.
- Support for decision-making through scenario analysis and KPI evaluation.
- Collaboration with technical teams to translate operational requirements into simulation models.

🏢 **Tarh Rah Abrisham Consulting Agency** – Tehran, Iran

Modeler intern

[01/08/2016 – 01/01/2018]

- Highway design modification and analyzing its impacts
- Traffic flow modeling
- Road design by Autodesk AutoCAD

EDUCATION AND TRAINING

PhD in Infrastructure and Transport

Sapienza University of Rome [01/11/2024 – Current]

City: Rome | Country: Italy

Master's degree in transport systems engineering

Sapienza university of Rome [23/09/2019 – 17/10/2023]

City: Rome | Country: Italy

LANGUAGE SKILLS

Mother tongue(s): Persian

Other language(s):

English

LISTENING C1 READING C1 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Italian

LISTENING B1 READING B1 WRITING B1

SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1

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

SKILLS

AnyLogic Software / OpenTrack / Programming: Python Programming / Autodesk AutoCAD (2006/2017) / Microsoft Excel / Microsoft Word / Microsoft Powerpoint / Excel/Power Query

PROJECTS

[01/06/2024 – Current]

AUTOMOTIF (Horizon Europe)

- Contributed to the AutoMoTIF European project on automated and interoperable multimodal freight transport systems.
- Worked on Use Case 4, focused on automated multimodal terminal operations and the transition from partial automation to full autonomy.
- Supported simulation-based analysis of autonomous terminal processes, including autonomous wagon movements, yard routing, and interaction with AGVs and AWTs.
- Contributed to evaluating terminal efficiency, routing conflicts, operational bottlenecks, throughput, safety, and sustainability impacts.

[01/04/2026 – Current]

Port of Trieste

- Contributed to the development of a rail-yard simulation model for terminal operations in the Port of Trieste context.
- Modelled shunting operations, train movements, yard tracks, terminal access routes, and internal railway interactions using AnyLogic.
- Developed and tested logic for coordinating trains and shunting locomotives during coupling, decoupling, arrival, departure, and yard transfer operations.
- Worked on route-planning and movement-control mechanisms to support safe and efficient train circulation inside the terminal area.
- Implemented reservation and blocking logic to prevent conflicts between trains and shunting locomotives on shared railway tracks.
- Analysed operational issues such as routing conflicts, deadlocks, track occupation, locomotive availability, and terminal bottlenecks.
- Supported the improvement of simulation logic to increase operational reliability, reduce unnecessary waiting times, and improve yard resource utilization.
- Contributed to the evaluation of terminal performance under different rail-yard operating conditions and movement scenarios.

[01/05/2023 – 17/10/2023]

A comparative analysis of Track Access Charge mechanisms and their influence on railway network and capacity

- Conducted comparative analysis of track access charge mechanisms in 18 countries, assessing impact on railway network efficiency.
- Employed simulation modeling to identify optimization opportunities.
- Synthesized findings into actionable recommendations for enhancing track access charge systems to promote better resource allocation and maximize railway network performance.

[10/08/2017 – 31/12/2017]

BRT system (Tehran to Karaj)

- This project was aimed at designing a public transit system (BRT) from Tehran to Karaj.

[01/08/2016 – 30/04/2017]

White Line project of Tehran

- Modification of Tehran's highway network in order to achieve a more sustainable transportation.

PUBLICATIONS

[2026]

Cancel-Run Frontiers for Delayed Trains Under Railway Performance Regimes

Authors: Peyman Asmari, Stefano Ricci | **Journal Name:** Conference: 9th International Conference on Road and Rail Infrastructure

[2026]

Cognitive Digital Twins for Integrated and Automated Multimodal Logistic Terminals

Authors: Olga Gotalay, Riccardo D'Elia, Andrea Quattrini, Francesco Flammini, Alberto Termine, Peyman Asmari, Stefano Ricci | **Journal Name:** In Conference: TRA 2026 (Pre-print)

[2026]

Assessment of Delay Propagation Effects Within the Framework of Track Access Charges and Performance Regimes in European Rail Networks

Authors: Peyman Asmari, Stefano Ricci | **Journal Name:** In book: NEW HORIZONS of Transport and Communications 2025

[2025]

Effects of Track Access Charges Mechanisms and Performance Regimes on Generation and Propagation of Trains' Delays

Authors: Peyman Asmari, Stefano Ricci | **Journal Name:** Conference: Transport Means 2025

[2025]

Toward a Reliable and Resilient Algorithm for Track Access Charge Calculation in the Single European Railway Area

Authors: Peyman Asmari, Vladimir Malčić, Branislav Zdravko Boskovic, Mirjana Bugarinovic, Stefano Ricci | **Journal Name:** In book: Reliability and Statistics in Transportation and Communication

[2025]

Track access charge in European railways: comparative approach to improve effectiveness

Authors: Peyman Asmari, Stefano Ricci | **Journal Name:** Transportation Research Procedia | **Volume, Issue and Pages:** 83(4):577-584

[2024]

Comparing European track access charge mechanisms and their impact on networks use

