

# REZA SHAHBAZIAN

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🎓 GoogleScholar 🌐 Scopus

## Current Position

From May 2025, he has been enrolled as an Assistant Professor (Tenure Track) at the University of Palermo. He holds the Italian National Scientific Qualification (Abilitazione Scientifica Nazionale, ASN) for the role of Associate Professor in Computer Engineering (SSD 09/H1).

## Education

- 2016–2019 : **PhD, Computer Science**, *University of Calabria, Department of Mathematics and Computer Science*, Thesis: "Distributed Optimization for Large-scale data analytics". Supervisor: Prof. Francesca Guerriero & Prof. Lucio Grandinetti. Defended on Jan. 2020, with the highest grade.
- 2011–2016 : **PhD, Telecommunications**, *Shahid Beheshti University*, Thesis: "Optimization with applications in Localization" .
- 2008–2011 : **Master of Engineering, Electrical Engineering (Telecommunications-System)**, *Iran University of Science and Technology (IUST)*, Thesis: "New Synchronization Algorithm for MB-OFDM Ultra Wide Band Systems". Supervisor: Prof. Bahman Abolhassani. Rank: The Elite Student among all communication- systems in the Electrical Engineering Department.
- 2004–2008 : **Bachelor of Engineering, Electrical Engineering (Telecommunications)**, *Iran University of Science and Technology (IUST)*, Thesis: "Image Processing Techniques for Virtual Studios". Supervisor: Prof. Ali Asghar Beheshti. Rank: top 10 percent of all B.S. students of the Electrical Engineering Department (2008). Accepted in MSc, directly without an exam.

## Past Experiences

### Academic

- June,2023 – **Assistant Professor (non tenure track)**, *Department of Computer Engineering, Modeling, Electronics and Systems (DIMES), University of Calabria, Rende, Italy.*
- May,2025
- March,2022 – **Post-doc Research Fellow, Department of Mechanical, Energy and Management Engineering (DIMEG), University of Calabria, Rende, Italy.**  
June,2023  
Developing solutions for using machine learning in operational research (Vehicle Routing Problem). This project was sponsored by the industry and the results including the software packages were used by industry.
- Dec.,2021 – **Post-doc Researcher at Department of Computer Engineering, Modeling, Electronics and Systems (DIMES), University of Calabria, Rende, Italy.**  
Dec. 2022  
Application of Machine Learning on Security and Occupancy Detection. This project was financed by the Ministry of Research in Italy.
- May, 2020 – **Post-doc Research Fellow, Department of Computer Engineering, Modeling, Electronics and Systems (DIMES), Univesity of Calabria, Rende, Italy.**  
Nov., 2021  
Application of Machine Learning for Data Cleaning and Missing Data Imputation

### Other Experiences

- 2009-2011 Part-time Researcher as Telecommunication System Designer at Satellite Research Center for Iran University of Science & Technology (IUST)-IRAN, 2-years- Part time
- 2013-2016 Part-time Researcher at Niroo Research Center (NRI), Iran: researching on digital transformation

- 2013-2016 Part-time Researcher at Iran Telecommunication Research Center (ITRC): researching on cyber risk assessment for networks
- 2020 Researcher - Standard Research Center (IRAN): researching on Artificial Intelligence and Cyber Security Standards 1-year

## Recognitions

- 2025 **Best Paper Award**, Green Generative AI for exploit prediction in resource-limited systems. IEEE CyberSciTech 2025, Hakodate, Japan.
- 2023 **Italian National Scientific Qualification**, (Abilitazione Scientifica Nazionale, ASN) for the role of Associate Professor in Computer Engineering (SSD 09/H1). By Ministero dell'Istruzione e del Merito, Italy, 2023.
- 2022 **IEEE Senior Member**, Recognition By IEEE, 2022.
- 2022 *Best Reviewer* at CCF Transactions on Pervasive Computing and Interaction Journal, Springer.
- 2022 *Best Reviewer* at Sensor Review Journal, Emerald Publishing.
- 2016 –2019 *PhD Scholarship* of Region of Calabria, Government of Italy, as a PhD student.
- 2011 Recognition as Elite student, Iran university of science and technology (IUST).

## Grants

- 2025 *Recipient of the ENFIELD TES-4 (oc4-2025-TES-02) competitive grant for a six-month mobility-based research project in AI.*
- 2025 *FORTHEN Lab project grant for "Green-Aware AI for Sustainable Mobility and Logistics," which supports co-creation and research activities within the FORTHEN Climate & Resources Lab, aiming to advance sustainable mobility and logistics through AI-driven solutions*

## Startup

- Co-Founder **IQLINIQ – AI-based Clinic Management**, accepted as a Spin-off of University of Calabria

## Journal Editorial Activities

- 2025 **Editorial Board Member**, *Scientific Reports (Springer Nature)* (Q1, IF=3.9)
- 2025 **Academic (Associate) Editor**, *IET Biometrics (Wiley)* (Q2, IF=1.8)
- 2025 **Editorial Board Member**, *Journal of Central Nervous System Disease (Sage)*, For AI applications (Q2, IF=2.8)
- 2025 **Young Editorial Board Member**, *Human-Centric Intelligent Systems (Springer Nature)* (Q2)
- 2025 **Editorial Board Member**, *International Journal of Information Quality (InderScience)*
- 2024 **Associate Editor** *Advances in the Standards & Applied Sciences*, published by standard research institute. (new journal)
- 2024 **Guest Editor** *Array Journal (Elsevier)*, Special Issue "Generative AI and Green Technology for a Sustainable Future" has been set up in our system". (Q1, IF=4.5)
- 2023 **Guest Editor** *Journal of Applied Sciences (MDPI)*, Special Issue "Knowledge and Data Engineering". (Q2, IF=2.8)
- 2023 **Guest Editor** *Journal of Big Data and Cognitive Computing (MDPI)*, Special Issue "Deep Learning Technology and Big Data Method for Business and Environmental Management". (Q2, IF=3.7)

## Journal Review Activities

He has served as a reviewer for many journals, and his public records show more than **250** reviews for **75** publications by the end of **2025**. The full list is available at <https://orcid.org/my-orcid?orcid=0000-0002-2313-6002>.

## EU Projects Evaluation

2024 **National Research Agency (ANR)-France**, part of evaluation of AAPG 2024 as a Scientific Expert for the scientific panel CE45.

## Patents and Innovations

2023 **USPatent:20230081359**; Digital mental health ecosystem; Mirtaheri, Seyedeh Leili (Rende, IT), Shahbazian, Reza (Rende, IT), Eslami, Ali (Vancouver, CA)

2018 **IranPatent:20230081359**; The random numbers generator hardware, No. 3032041 dated 10/08/1396, Iran Patent

## Teaching Experiences

2025 **Ph.D. Course**, *Fundamentals AI and Large Language Models*- University of Palermo, **10h**.

2025 **Bachelor of Science**, Artificial Intelligent- University of Palermo, **30h**.

2025 **Master of Science**, Intelligent Data Analysis and Data Storage- University of Palermo, **30h**.

2025 **Master of Science**, Computer Networks and Webdesign- University of Palermo, **30h**.

2025 **Bachelor of Science**, Computer Basics and Programming- University of Palermo, **60h**.

2024 **Bachelor of Science**, DATA MINING- DIMES- University of Calabria, **28h**.

2023 **Ph.D. Course**, *Fundamentals and Advances in Localization for Cognitive Buildings*- DIMES- University of Calabria, **10h**.

2014 **Master of Science**, Computer Basics and Programming, Shahid Beheshti University (IRAN), **96h**.

2014 **Bachelor of Science**, Digital Communications, Students of Computer and Electrical Engineering, National Qom University (IRAN), **96h**.

2014 **Bachelor of Science**, Micro Processors, Students of Computer and Electrical Engineering, Azad Islamic University (North Tehran Branch) (IRAN), **96h**.

2014 **Bachelor of Science**, Computer Architecture, Students of Computer and Electrical Engineering, Azad Islamic University (North Tehran Branch) (IRAN), **48h**.

2012 **Bachelor of Science**, Computer Basics and Programming, Students of Computer and Electrical Engineering, Shahid Beheshti University (IRAN), **48h**.

2013 **Bachelor of Science**, Computer Basics and Programming, Students of Computer and Electrical Engineering, Shahid Beheshti University (IRAN), **48h**.

2013 **Bachelor of Science**, Micro Processors, Students of Computer and Electrical Engineering, Azad Islamic University (North Tehran Branch) (IRAN), **48h**.

## Projects

### Research Projects[ Outputs: documents, scientific papers, and simulation codes]

**Researcher**, *SOLuzioni efficienti di Logistica Industriale per la Distribuzione Organizzata (SOLIDO)*- CUP C22C21000990008, DIMEG, University of Calabria.

**Researcher**, *Ministero dello Sviluppo Economico (MISE) nell'ambito del progetto True Detective 4.0, e in parte dal Piano Nazionale di Ripresa e Resilienza (PNRR) del Ministero dell'Università e della Ricerca (MUR) nell'ambito del Progetto PE000013-FAIR*, DIMES, University of Calabria .

**Researcher**, *Future Artificial Intelligence Research (FAIR), Spoke 9 - GREEN-AWARE AI Titolo della ricerca Green-Aware XAI: modelli di reti neurali a grafo interpretabili per una conoscenza green-aware*, DIMES, University of Calabria.

**Principal Investigator (PI)**, *Cyber Risk Management for Critical Infrastructure Security*, Project Owner: Iran Telecommunication Research Center, 2020.

**Co-Principal Investigator**, *Research and Consultancy on Development of E-Government*, Project Owner: Ministry of Telecommunications (Iran) with collaboration of Kharazmi University.

### Software Projects [ Outputs: documents, and software products ]

**R&D**, *E-Health Mobile Application - For Suicidal Teenagers*, British Columbia (BC) Children's Hospital.

**R&D**, *AI-Based automated clinical report generator for mental health assessments, allbrains clinic, BC, Canada*.

## Workshop and Conference Organization

- 2026 Program Committee Member, international AI and machine learning conferences (ongoing).
- 2025 Organizer, *International Workshop on Green-Aware AI, ECAI 2025*, Italy.
- 2024–2025 Program Committee / Technical Program Committee Member, major international AI conferences including *IJCAI, ICLR, ECAI, Intellisys*, and *AAAI* workshops.
- 2017–2019 Executive Chair and Program Committee Member, *International Conference on High Performance Computing and Big Data Analytics (TopHPC)*, Tehran, Iran.
- 2017 Steering Committee Member, *Russian Supercomputing Days (RSC)*, Moscow, Russia.
- 2018 Workshop Organizer, *Security Requirements in Power Distribution Automation*, ISC Conference, Tehran, Iran.
- 2023 Technical Program Committee Member, *ICCAIS 2023*, Wuhan, China.

## Software Development skills

- **Project Management Tools**: Jira, Trello, Github, Git Version Control
- **Programming Languages**: Python (PyTorch, Tensorflow), MATLAB, ML-Cloud Environments
- **Database**: SQL-Server, MySQL, Apache, MongoDB
- **Cybersecurity Standards**: NIST, OWASP, ISO/IEC 27000, ISO/IEC 15408

## Language Fluency

- **English**: Excellent
- **Italian**: Intermediate-B2
- **Turkish**: Intermediate
- **Persian**: Native

## Publications

### Journal and Selected Conference Papers

- 2026 Narges Movahedkor, Reza Shahbazian, and Francesca Guerriero. Hybrid knowledge-guided reinforcement learning with adaptive variable neighborhood search for dynamic multi-depot electric vehicle routing problems. *Expert Systems with Applications*, page 132238. Elsevier, 2026.
- 2025 Reza Shahbazian, Irina Trubitsyna, and Seyedeh Leili Mirtaheri. Joint explainable and fair ai in healthcare. *BMC Medical Informatics and Decision Making*, volume 25, pages 1–21. Springer, 2025.

- 2025 Reza Shahbazian, Alessia Ciacco, Giusy Macrina, and Francesca Guerriero. Knowledge-guided hybrid deep reinforcement learning for the dynamic multi-depot electric vehicle routing problem. *Computers & Operations Research*, page 107217. Elsevier, 2025.
- 2025 Siavash Rajabi, Reza Shahbazian, and Seyed Ali Ghorashi. Beyond nearest-neighbor connections in device-to-device cellular networks. *Electronics*, volume 14, page 3344. MDPI, 2025.
- 2025 Seyedeh Leili Mirtaheric, Narges Movahed, Reza Shahbazian, Valerio Pascucci, and Andrea Pugliese. Cybersecurity in the age of generative ai: A systematic taxonomy of ai-powered vulnerability assessment and risk management. *Future Generation Computer Systems*, page 108107. Elsevier, 2025.
- 2025 Seyedeh Leili Mirtaheri, Reza Shahbazian, Valerio Pascucci, Narges Movahedkor, and Andrea Pugliese. Civs: A collective-intelligence ensemble for automated software vulnerability scoring. *IEEE Access*. IEEE, 2025.
- 2025 Seyedeh Leili Mirtaheri, Andrea Pugliese, Narges Movahed, and Reza Shahbazian. A comparative analysis on using gpt and bert for automated vulnerability scoring. *Intelligent Systems with Applications*, volume 26, page 200515. Elsevier, 2025.
- 2025 Gianvincenzo Alfano, Sergio Greco, Domenico Mandaglio, Francesco Parisi, Reza Shahbazian, and Irina Trubitsyna. Even-if explanations: Formal foundations, priorities and complexity. In *Proceedings of the AAAI Conference on Artificial Intelligence*, volume 39, pages 15347–15355, 2025.
- 2025 Gianvincenzo Alfano, Sergio Greco, Domenico Mandaglio, Francesco Parisi, Reza Shahbazian, and Irina Trubitsyna. Decentralized federated learning meets physics-informed neural networks. *Knowledge-Based Systems*, volume 323, page 113717, 2025.
- 2024 Reza Shahbazian, Luigi Di Puglia Pugliese, Francesca Guerriero, and Giusy Macrina. Integrating machine learning into vehicle routing problem: Methods and applications. *IEEE Access*, pages 1–1, 2024.
- 2024 Reza Shahbazian and Francesca Guerriero. Deep reinforcement learning for large-scale efficient routing of electric vehicles. In *2024 International Conference on Automation in Manufacturing, Transportation and Logistics (ICaMaL)*, pages 1–10. IEEE, 2024.
- 2024 Narges Movahedkor and Reza Shahbazian. Decentralized federated deep reinforcement learning framework for energy-efficient base station switching control. In *2024 11th International Symposium on Telecommunications (IST)*, pages 455–460, 2024.
- 2024 Seyedeh Leili Mirtaheri, Sergio Greco, and Reza Shahbazian. A self-attention tcn-based model for suicidal ideation detection from social media posts. *Expert Systems with Applications*, volume 255, page 124855. Elsevier, 2024.
- 2024 Tariq Mahmood, Reza Shahbazian, and Irina Trubitsyna. Fairness-driven explainable learning in multi-agent reinforcement learning. 2024.
- 2024 Maryam Babaeifard, Mehdi Akbari, Shahram Mohammadkhani, Jafar Hasani, Reza Shahbazian, and Edward A. Selby. Early maladaptive schemas, distress tolerance and self-injury in iranian adolescents: serial mediation model of transdiagnostic factors. *BJPsych Open*, volume 10, page e116, 2024.
- 2023 Reza Shahbazian and Irina Trubitsyna. Human sensing by using radio frequency signals: A survey on occupancy and activity detection. *IEEE Access*, volume 11, pages 40878–40904, 2023.
- 2023 Reza Shahbazian, Giusy Macrina, Edoardo Scalzo, and Francesca Guerriero. Machine learning assists iot localization: A review of current challenges and future trends. *Sensors*, volume 23, page 3551. MDPI, 2023.
- 2023 Reza Shahbazian and Sergio Greco. Generative adversarial networks assist missing data imputation: A comprehensive survey and evaluation. *IEEE Access*, volume 11, pages 88908–88928, 2023.

- 2022 Reza Shahbazian and Irina Trubitsyna. Degain: Generative-adversarial-network-based missing data imputation. *Information*, volume 13, page 575. MDPI, 2022.
- 2022 Narges Mohammadi Nezhad, Seyedeh Leili Mirtaheri, and Reza Shahbazian. Popular image generation based on popularity measures by generative adversarial networks. *Multimedia Tools and Applications*, pages 1–25. Springer, 2022.
- 2022 M. Nabati, S.A. Ghorashi, and R. Shahbazian. Jgpr: a computationally efficient multi-target gaussian process regression algorithm. *Machine Learning*, volume 111, pages 1987–2010, 2022.
- 2022 M. Nabati, S.A. Ghorashi, and R. Shahbazian. Confidence interval estimation for fingerprint-based indoor localization. *Ad Hoc Networks*, volume 134, 2022.
- 2021 H. Navidan, P.F. Moshiri, M. Nabati, R. Shahbazian, S.A. Ghorashi, V. Shah-Mansouri, and D. Windridge. Generative adversarial networks (gans) in networking: A comprehensive survey & evaluation. *Computer Networks*, volume 194, 2021.
- 2021 M. Nabati, S.A. Ghorashi, and R. Shahbazian. Joint coordinate optimization in fingerprint-based indoor positioning. *IEEE Communications Letters*, volume 25, pages 1192–1195, 2021.
- 2021 P.F. Moshiri, M. Nabati, R. Shahbazian, and S.A. Ghorashi. Csi-based human activity recognition using convolutional neural networks. *ICCCKE 2021 - 11th International Conference on Computer Engineering and Knowledge*, pages 7–12, 2021.
- 2021 Parisa Fard Moshiri, Reza Shahbazian, Mohammad Nabati, and Seyed Ali Ghorashi. A csi-based human activity recognition using deep learning. *Sensors*, 2021.
- 2020 R. Shahbazian and F. Guerriero. Optimized distributed large-scale analytics over decentralized data sources with imperfect communication. *Journal of Supercomputing*, volume 76, pages 8510–8528, 2020.
- 2020 M. Nabati, H. Navidan, R. Shahbazian, S.A. Ghorashi, and D. Windridge. Using synthetic data to enhance the accuracy of fingerprint-based localization: A deep learning approach. *IEEE Sensors Letters*, volume 4, 2020.
- 2019 R. Shahbazian and F. Guerriero. Where optimization meets big data: A review. *Future Trends of HPC in a Disruptive Scenario*, pages 22–33, 2019.
- 2019 R. Shahbazian and F. Guerriero. Optimal weight design for decentralized consensus-based large-scale data analytics over internet of things. *Communications in Computer and Information Science*, volume 891, pages 279–288, 2019.
- 2019 R. Shahbazian, L. Grandinetti, and F. Guerriero. A new distributed and decentralized stochastic optimization algorithm with applications in big data analytics. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, volume 11331 LNCS, pages 77–91, 2019.
- 2019 E. Homayounvala, M. Nabati, R. Shahbazian, S.A. Ghorashi, and V. Moghtadaiee. A novel smartphone application for indoor positioning of users based on machine learning. *UbiComp/ISWC 2019- - Adjunct Proceedings of the 2019 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2019 ACM International Symposium on Wearable Computers*, pages 430–437, 2019.
- 2019 L. Grandinetti, R. Shahbazian, and S.L. Mirtaheri. Preface. *Communications in Computer and Information Science*, volume 891, pages v–vii, 2019.
- 2019 P.M. Ghari, R. Shahbazian, and S.A. Ghorashi. Maximum entropy-based semi-definite programming for wireless sensor network localization. *IEEE Internet of Things Journal*, volume 6, pages 3480–3491, 2019.
- 2018 R. Shahbazian and S.A. Ghorashi. Three dimensional power efficient distributed node localisation in wireless sensor networks. *International Journal of Sensor Networks*, volume 28, pages 103–113, 2018.

- 2018 S. Kazemi Rashed, R. Shahbazian, and S.A. Ghorashi. Learning-based resource allocation in d2d communications with qos and fairness considerations. *Transactions on Emerging Telecommunications Technologies*, volume 29, 2018.
- 2017 R. Shahbazian and S.A. Ghorashi. Localization of distributed wireless sensor networks using two sage sdp optimization. *International Journal of Electrical and Computer Engineering*, volume 7, pages 1255–1261, 2017.
- 2017 R. Shahbazian and S.A. Ghorashi. Distributed cooperative target detection and localization in decentralized wireless sensor networks. *Journal of Supercomputing*, volume 73, pages 1715–1732, 2017.
- 2017 A. Hajihoseini Gazestani, R. Shahbazian, and S.A. Ghorashi. Decentralized consensus based target localization in wireless sensor networks. *Wireless Personal Communications*, volume 97, pages 3587–3599, 2017.
- 2016 A. Safaei, R. Shahbazian, and S.A. Ghorashi. Cooperative improved target localization in harsh environments using direction of arrival. *Indonesian Journal of Electrical Engineering and Computer Science*, volume 3, pages 420–427, 2016.
- 2016 P.M. Ghari, R. Shahbazian, and S.A. Ghorashi. Wireless sensor network localization in harsh environments using sdp relaxation. *IEEE Communications Letters*, volume 20, pages 137–140, 2016.
- 2015 S.K. Rashed, R. Shahbazian, and S.A. Ghorashi. Spectrum decision in cognitive radio networks using multi-armed bandit. *2015 5th International Conference on Computer and Knowledge Engineering, ICCKE 2015*, pages 143–146, 2015.
- 2015 S. Imani, R. Shahbazian, and S.A. Ghorashi. An iterative bit flipping based decoding algorithm for ldpc codes. *IWCIT 2015 - Iran Workshop on Communication and Information Theory*, 2015.
- 2014 M. Fardad, S.A. Ghorashi, and R. Shahbazian. A novel maximum likelihood based estimator for bearing-only target localization. *22nd Iranian Conference on Electrical Engineering, ICEE 2014*, pages 1522–1527, 2014.

#### Published Books

- 2022 **Reza Shahbazian and Seyedeh Leili Mirtaheri**, Machine learning from theory to applications (ISBN 9780367634568, published in CRC Press-Taylor and Francis Group.
- 2019 **Reza Shahbazian, Seyed Ali Ghorashi, Francesca Guerriero**, Cooperative Localization and Navigation: Theory, Research and Practice, book chapter, CRC Press 2019.
- 2019 **Grandinetti L. and Mirtaheri S.L. and Shahbazian R**, High-Performance Computing and Big Data Analysis, Revised Selected Papers of TopHPC 2019 (Vol. 891). Springer Nature.
- 2018 **Grandinetti L and Mirtaheri SL and Shahbazian R**, Big Data and HPC- Ecosystem and Convergence, IOS Press.

#### Accepted and Under-Review

- 2025 **S. Rajabi , R. Shahbazian, S.A. Ghorashi, V. Shahmansouri**, Optimized Pairing-based Fair Resource Management in LTE-Advanced Device-to-Device Communications, (Under Review)-Journal of Engineering.
- 2025 **N. Movahedkor , R. Shahbazian, and F. Guerriero**, Hybrid Knowledge-Guided Multi-Agent Reinforcement Learning with Adaptive Variable Neighborhood Search for Dynamic Multi-Depot Electric Vehicle Routing Problems, (Under Review)-Expert Systems with Applications.
- 2025 **M. Rabiee , R. Shahbazian, and I. Trubitsyna**, Balancing Accuracy and Efficiency in FCD Segmentation Using SegResNet Variants: a Reproducible Benchmark, (Under Review)-Scientific Reports.