

Gennaro Zanfardino

AI RESEARCHER | DATA SCIENTIST

L'Aquila, Italy

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Education

University of L'Aquila

PH.D. IN INFORMATION AND COMMUNICATION TECHNOLOGIES

L'Aquila, Italy

Expected 2025

- Research Area: Artificial Intelligence and Synthetic Data in Healthcare.
- Focus: Validation and robustness of AI models trained with synthetic datasets for medical diagnostics.

University of Salerno

MASTER'S DEGREE IN COMPUTER SCIENCE

2021 - Grade: 110/110 magna cum laude

Thesis: Investigating the validity and effectiveness of AI models trained with synthetic datasets for diagnostic applications.

University of Portsmouth

EXCHANGE STUDY PROGRAM (ERASMUS+)

2018 - 2019

Participated in a one-year Erasmus+ exchange program focused on advanced computer science courses and cross-cultural academic collaboration.

University of Salerno

BACHELOR'S DEGREE IN COMPUTER SCIENCE

2019 - Grade: 110/110 magna cum laude

Thesis: Implementation and evaluation of deep learning models for image segmentation in biomedical applications.

TI "C.A. Dalla Chiesa"

COMPUTER SCIENCE HIGH SCHOOL DIPLOMA

Afragola(NA), Italy

2016 - Grade: 100/100

Experience

Virtualitics Inc. and select industry partners

SENIOR MACHINE LEARNING ENGINEER (CONTRACTOR)

Pasadena, CA (Remote)

2021 - Present

- Developed model training pipelines to be deployed within secure environments (e.g., DoD context).
- Worked on integration with explainable AI toolkits to support decision-making workflows for enterprise clients.

Alfonsino S.p.A.

SOFTWARE DEVELOPER

Caserta, Italy

2021

- Designed and developed in Node.js for the food delivery logistics platform.
- Assisted in migrating legacy codebases.

University of Portsmouth

MACHINE LEARNING RESEARCH ASSOCIATE

Portsmouth, UK

2019

- Collaborate with interdisciplinary teams on federated learning and explainability in deep learning models.
- Contribute to academic publications and technical reports.

Skills

Python Exploratory Data Analysis Deep Learning Medical Imaging Digital Twins Natural
Language Processing MLOps LaTeX Git & GitHub Scientific Writing Augmented Reality

Publications

- 2024 **Engineering a Digital Twin for Diagnosis and Treatment of Multiple Sclerosis**, D'Aloisio, G., Di Matteo, A., Cipriani, A., Lozzi, D., Mattei, E., Zanfardino, G., Di Marco, A., Placidi, G. *ACM/IEEE MODELS 2024*, pp. 364–369
- 2024 **A crowd simulation-based tool for environmentally hazard-conscious urban design**, Eugeni, F., Zanfardino, G., Di Ludovico, D. *BDC. Bollettino Del Centro Calza Bini*, 24(2), 147–162
- 2025 **Simulating crowd behaviour to implement safety-based urban design techniques aimed at optimizing evacuation**, Di Ludovico, D., Eugeni, F., Zanfardino, G., Di Marco, A. *Journal of Urban Design*, pp. 1–22
- 2023 **Coupling Exploratory Data Analysis and mL-Ops**, Zanfardino, G. *Video Memorie della Societa Astronomica Italiana*, 4, 22
- 2022 **Real-time FPM reconstruction and misalignment correction by numerical Multi-Look and GAN**, Bianco, V., Delli Priscoli, M., Valentino, M., Pirone, D., Behal, J., Zanfardino, G., et al. *Computational Optical Sensing and Imaging*, pp. CTh3C–4
- 2022 **Deep learning-based, misalignment resilient, real-time Fourier Ptychographic Microscopy reconstruction of biological tissue slides**, Bianco, V., Delli Priscoli, M., Pirone, D., Zanfardino, G., et al. *IEEE Journal of Selected Topics in Quantum Electronics*, 28(4)
- 2021 **ARDNA: A Mobile App Based on Augmented Reality for Supporting Knowledge Exploration in Learning Scenarios**, Genovese, A., Marino, F., Orciuoli, F., Zanfardino, G. *Intelligent Tutoring Systems (ITS 2021)*, pp. 505–511
- 2021 **Unmask inflated product reviews through Machine Learning**, Bangerter, M. L., Fenza, G., Gallo, M., Genovese, A., Nota, F. D., Stanzione, C., Zanfardino, G. *IEEE CIVEMSA 2021*, pp. 1–6
- 2024 **Urban Digital Twin for Territorial Management**, Zanfardino, G. *Discovery Science 2024*