Giulia Raffaella De Luca

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Born: February 20, 1998—Napoli (NA), Italy
Nationality: Italian

Current position

PhD Student, Health and Technology PhD Programme, University of Bologna, Italy
Since November 1, 2024 (Expected completion: October 2026)
Research project: "A deep clustering framework for personalized, post-test risk prediction in lung cancer screening"

Areas of specialisation

Biomedical Engineering; Artificial Intelligence; Big Data; Lung Cancer Screening; Diagnostic Support Systems; Medical Imaging

Appointments held

2023   Post-graduate research scholarship, "Archive of CT Images and Evaluation of Diagnostic Support Systems for Lung Cancer Screening"
University of Bologna, Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi"
Supervisor: Prof. Stefano Diciotti.

Teaching and Training Activities

2025   **Lecturer**
- Course: *"Progetto 2 - Interrogare l'intelligenza artificiale: strumenti e tecniche,"* (24-hour adult education course, held in italian), in collaboration with TECHNE - Società consortile a responsabilità limitata, Forlì
- Course: *Corso di formazione permanente "Intelligenza Artificiale: i tools di innovazione tecnologica,"* (40-hour adult education course, held in italian), in collaboration with TECHNE - Società consortile a responsabilità limitata, Forlì
- Seminar: *"AI in lung cancer screening: emerging applications,"* B5224 - ARTIFICIAL INTELLIGENCE FOR MEDICINE M course, A.A. 2024/2025, May 23, 2025

- Seminar: *"Data standards and AI in lung cancer screening: updates from a PhD's logbook,"* Advanced ML for Medicine, PhD course, A.A. 2023/2024
- Seminar: *"Data standard: a reuse case,"* Research data management and Open Science principles, PhD course, A.A. 2023/2024

2025   **Thesis supervision**
- Santjago Burini, First Cycle Degree/Bachelor in Biomedical engineering, University of Bologna, Cesena Campus, ongoing
- Farhad Bayrami, Second Cycle Degree/Two Year Master in Electronic engineering, University of Bologna, ongoing

2024-2025   **Workshop facilitator**
In collaboration with OSSIGENO SOCIETA' COOPERATIVA SOCIALE, Via Ferrarese 3, 40128, Bologna (BO):
- *"Kids-Lab, BASF Italia,"* hands-on labs for middle school students (BASF Italia, Cesano Maderno, May 2025 and November 2025)
- *"Costruisci la fabbrica del futuro,"* tinkering lab for kids (Interpump Hydraulics, Sala Bolognese, September 2025)
- *"AI unplugged,"* hands-on labs for kids (SACMI IMOLA S.C, November 2024)

Education

2023   Master's degree in Biomedical Engineering - Innovative Technologies in Diagnostics and Therapy, Alma Mater Studiorum, University of Bologna
Thesis: "Patient Stratification in Lung Cancer Screening using SmileGAN"
Supervisor: Prof. Stefano Diciotti

2020   Bachelor's degree in Biomedical Engineering,
Alma Mater Studiorum, University of Bologna
Thesis: Dosimetry and Radioprotection: Innovations introduced by Directive 2013/59/EURATOM and its implementation in Italy
Supervisor: Prof. Cristiana Corsi

Post-Graduate Education

2025   Oxford Mathematical Institute, University of Oxford, 02-05/08/2025,
Summer School "MLx HEALTH & BIO"

2024   University of Pavia, 19-23/02/2024
Data-Driven Healthcare Transformation Winter School

2023   Cambridge Centre for AI in Medicine, University of Cambridge, 11-15/09/2023
AI and Machine Learning for Healthcare Summer School

Publications

Journal articles

2025   De Luca G. R., Diciotti S., & Mascalchi M. (2024). "The pivotal role of baseline LDCT for lung cancer screening in the era of artificial intelligence." *Archivos de Bronconeumología*. DOI: 10.1016/j.arbres.2024.11.001.

2024   Mascalchi M., Cavigli E., Picozzi G., Cozzi D., De Luca G. R., & Diciotti S. (2024). "The Azygos Esophageal Recess Is Not to Be Missed in Screening Lung Cancer With LDCT." *Journal of Thoracic Imaging*. DOI: 10.1097/RTI.0000000000000813.

2024   Mascalchi M., Puliti D., Cavigli E., Cortés-Ibáñez F. O., Picozzi G., Carrozzi L., Gorini G., Delorme S., Zompatori M., De Luca G. R., Diciotti S., Comin C. E., Alì G., & Kaaks R. (2024). "Large cell carcinoma of the lung: LDCT features and survival in screen-detected cases." *European Journal of Radiology*, 179. DOI: 10.1016/j.ejrad.2024.111679 .

Conferences and Seminars

2025   G.R. De Luca, S. Diciotti, M. Mascalchi, "Development of a 3-D standardized lung template from low-dose CT scans," 2025 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI '25), Atlanta, Georgia, October 26-29, 2025 (Poster presentation, presenter); related paper

2025   G. R. De Luca, H. Boniface, S. Diciotti, "Standardizing CT data with BIDS: Applications in Lung and Brain Imaging," 47th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Copenhagen, Denmark, July 14-17, 2025 (Oral presentation, presenter) related paper

2025   G. R. De Luca, S. Diciotti, "AI for lung cancer imaging: a FAIRness story, " AI for Health and Well-being @UNIBO: innovation in PNRR and PNC projects, Bologna, February 5, 2025 (Poster presentation, presenter)

2024   RDA-VP24, Plenary Session: "Data for AI – Impact, Reproducibility & Trust" (Title: "Beyond the Algorithm: Data's Role for Trustworthy AI in Healthcare " - Author: Giulia Raffaella De Luca; Moderator: Lee Wilson) URL: Session available here (Youtube)

2024   RDA (online), "AI in Action: How Researchers Leverage AI" (Title: "Health data for AI: insights from a PhD's logbook" – Author: Giulia Raffaella De Luca; Moderator: Shalini Kurapathy). URL: Session available here (Youtube)

2024   "Extending BIDS to lung CT imaging: right here, right now" (Authors: Giulia Raffaella De Luca, Armand Violle, Stefano Diciotti) - ITRN Annual Meeting, 3rd edition, Bologna, February 23, 2024 (Oral presentation, presenter)

Awards

2026   Winner of the Coimbra Group - 3-Minute-Thesis Competion - Unibo edition with the pitch "A GPS for lung cancer", Bologna, February 25, 2026.

2026   Winner of the Marco Polo Program - 1st Call 2026, University of Bologna
Mobility grant for the project "A Population-Atlas-Based AI Framework for Personalized Risk Stratification in Lung Cancer Screening," conducted at Radboudumc (Netherlands), January – June 2026.

2025   NSF-EMBS-Google Sponsored Young Professional NextGen Scholar Recognition for the 2025 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI '25), Atlanta, Georgia, October 26-29, 2025

2025   3rd place for Best Paper in the Poster Track at the 2025 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI '25), Atlanta, Georgia, October 26-29, 2025

Languages

2023   IELTS Certification: 7.5 (C1 level)

Service to the profession

2025-present   Member, Minerva – Scientific Dissemination Association, giving talks about AI's opportunities in everyday life and medicine. YouTube playlist available URL: here (in italian)

Last updated: March 2, 2026