Agnese Robustelli Test

Summary

Biomedical physicist focused on advanced image analysis methods, integrating Radiomics and Artificial Intelligence, with research experience in Magnetic Resonance Imaging (MRI) and Computed Tomography (CT).

Work Experience

PhD Student October 2022 - present

University of Pavia, Physics Department, via A.Bassi 1, Pavia, 27100, Italy

PhD Guest October 2022 - February 2023

Lund University, Kemicentrum, Naturvetarvägen 22, Lund, Sweden

Research Involvement October 2022 - now

NAMASSTE (NAnoMAgnets for quantum Sensing and data SToragE), NEXT_AIM (next Artificial Intelligence in Medicine), MATHER3D (MAgnetic hyperthermia and hadron THERapy applied to 3D cellular scaffolds), AIM_MIA (Artificial Intelligence in Medicine: focus on Multi-Input Analysis), NEXT NAMASSTE (NEXT_NAnoMAgnets for quantum Sensing and data SToragE), Blue Sky (CT-driven Radiomics for predicting treatment response in stage III lung cancer).

Research topics

- Exploration of LIFEx-Pyradiomics concordance and radiomic features stability across CT and MRI
- MRI lung phantom development
- MRI mapping-NMR measurements agreement investigation on patients and $MnCl_2$ phantom
- PD-L1 expression quantification in lung cancer considering MRI acquisitions and Radiomics
- Radiomic analysis of magnetic alignment in Liquid Crystals
- Aging brain inspection combining MRI metrics and Machine Learning
- Development of a Radiomics-driven NN for CT-based subtype classification in Non-Small Cell Lung Cancer

Education

2022 M.Sc. in Biomedical Physics at University of Pavia
2020 Bachelor in Physics at University of Pavia

Publications

Bortolotto, Chandra et al. (2024). "CT and MRI radiomic features of lung cancer (NSCLC): comparison and software consistency". In: *European Radiology Experimental* 8.1, p. 71.

Messana, Gaia et al. (2025). "Non-invasive PD-L1 stratification in non-small cell lung cancer using dynamic contrast-enhanced MRI". In: *European Radiology*, pp. 1–12.