

FILIPPO MARTININI

✉ filippo.martinini@unibo.it

Research Activity

University of Bologna

November 2021 – now

PhD student in Electronics, Telecommunications and Information Technologies (ETIT)

Bologna

- Analysis of biomedical data, in particular MRI, with a focus on Signal Processing method to accelerate acquisitions systems
- Novel Compressed-sensing-based encoding/decoding strategies for the transmission of biomedical data
- Use of Deep Neural Network in biomedical applications, with a focus on efficiency and pruning

University of Bologna

April 2021 – October 2021

Research fellow

Bologna

Research funded by Centro ricerca sistemi Elettronici Ingegn. Inf. e Telecom. “Ercole De Castro” to the winner of the call Prot N./REP. N. 7/85.

- Implementation of Deep Neural Network based solution for fast MRI acquisition.

Working Experiences

Fondazione Alma Mater

November 2021 – December 2021

Tutor

Bologna

- Tutor of *MUNER School in Automotive for intelligent mobility*

Fondazione Alma Mater

November 2022 – December 2022

Tutor

Bologna

- Tutor of *MUNER School in Automotive for intelligent mobility*

Università di Bologna

February 2021 – now

Tutor

Bologna

- Tutor for the course *90392 - ELEMENTS OF APPLIED DATA SECURITY M - 6 cfu of LM in Electronic Engineering.*

Studying

University of Bologna

September 2018 – February 2021

Master's Degree in Electronic Engineering

Bologna

- Grade: *110/110 cum laude*
- Thesis title: *“Deep Neural Recovery For Compressed Imaging”*
- Professor: *Riccardo Rovatti*

University Bologna

September 2015 – October 2018

Bachelor Degree in Electronic and Telecommunications

Bologna

- Grade: *94/110*
- Professor: *Daniele Tarchi*

Publications

- F. Martinini et al., “Training Binary Layers by Self-Shrinking of Sigmoid Slope: Application to Fast MRI Acquisition,” 2022 IEEE Biomedical Circuits and Systems Conference (BioCAS), Taipei, Taiwan, 2022, pp. 665-669, doi: 10.1109/BioCAS54905.2022.9948688.
- F. Martinini, A. Enttsel, A. Marchioni, M. Mangia, R. Rovatti and G. Setti, “Binary Compressed Sensing of ECG by Neural Matrix Optimization and Support Oracle,” 2022 IEEE Biomedical Circuits and Systems Conference (BioCAS), Taipei, Taiwan, 2022, pp. 660-664, doi: 10.1109/BioCAS54905.2022.9948666.
- F. Martinini, M. Mangia, A. Marchioni, R. Rovatti and G. Setti, “A Deep Learning Method for Optimal Undersampling Patterns and Image Recovery for MRI Exploiting Losses and Projections,” in IEEE Journal of Selected Topics in Signal Processing, vol. 16, no. 4, pp. 713-724, June 2022, doi: 10.1109/JSTSP.2022.3171082.
- F. Martinini, M. Mangia, F. Pareschi, R. Rovatti and G. Setti, “Compressed Sensing Inspired Neural Decoder for Undersampled MRI with Self-Assessment”, 2021 IEEE Biomedical Circuits and Systems Conference (BioCAS), Berlin, Germany, 2021, pp. 01-06, doi: 10.1109/BioCAS49922.2021.9644958.
- A. Enttsel, F. Martinini, A. Marchioni, M. Mangia, R. Rovatti and G. Setti, “Second-Order Statistic Deviation to Model Anomalies in the Design of Unsupervised Detectors,” ICASSP 2023 - 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Rhodes Island, Greece, 2023, pp. 1-5, doi: 10.1109/ICASSP49357.2023.10095287.

Languages

Italian: Native speaker

English: Professional