

FILIPPO MARTININI

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Research Activity

University of Bologna

November 2021 – now

PhD Student

Bologna

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

- 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 –

Tutor

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- * 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.

Languages

Italian: native speaker

English: Professional

29/03/2023

Filippo Martinini