

Matteo Ferro

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WORK EXPERIENCE

01/03/2024 – 31/08/2024 Oberpfaffenhofen, Germany
MASTER THESIS DLR - INSTITUTE OF COMMUNICATION AND NAVIGATION

At the German Aerospace Center (DLR) institute of communication and navigation, I worked within the information transmission group, investigating the performance of convolutional codes in short-packet communication. By exploiting a new approach for the Viterbi decoding algorithm, we proved the effectiveness of such codes, with our solution showing a consistent gain with respect to existing decoders.

10/2023 – 05/2024
TMTC TEAM MEMBER - CUBESAT 6S POLISPACE

Telemetry and Telecommand (TMTC) team member for the student association Polispace on the Cubesat 6S project, carried out as part of ESA's Fly Your Satellite! Booster program. My team was responsible for all the communication aspects of the project.

EDUCATION AND TRAINING

09/2022 – 10/10/2024
MASTER OF SCIENCE IN TELECOMMUNICATION ENGINEERING Politecnico di Milano

Final grade: 110/110 Cum Laude - I took classes on the main communication technologies, focusing on wireless communications, digital signal processing and information theory, alongside localization and remote sensing techniques.
Most courses required projects to be carried out either solo or in groups, using mainly Matlab or other software, and then presented via a LaTeX report and/or a PowerPoint presentation. Amongst them, these are some of the most notable:

- **Wireless Communication:** adaptive beamforming for base station to vehicle communication
- **Lab Experience:** AOA-only UWB localization in a factory-like environment (using Kalman Filter, non-linear least squares and an algorithm from the literature)
- **Advanced Digital Signal Processing:** 1. MIMO system identification and deconvolution; 2. Adaptive interference mitigation on audio signals; 3. Causal impact on e-marketing data
- **Radar Imaging:** 1. Multipath in automotive radar imaging; 2. SAR interferometry
- **Information Theory:** constrained capacity computation for single and multi-carrier systems
- **Wireless and Mobile Propagation:** radio network design through Radiomobile software

Thesis Convolutional codes for short-packet communication over noncoherent channels

09/2019 – 07/2022
BACHELOR'S DEGREE IN ELECTRONIC ENGINEERING Politecnico di Milano

Weighted average grade: 27.48/30

The courses I took gave me strong basics on mathematics, physics and programming, alongside advanced competence in electronics. I also had the opportunity to take classes on communication networks, chemistry and economy.

Final grade 106/110

09/10/2023 – 16/10/2023
HUAWEI SEEDS FOR THE FUTURE PROGRAM 2023-2024

I have been selected as one of the 50 Italian participants for the 2023-2024 Huawei Seeds for the Future Program. The activities included 15 hours of instruction and mentorship from top industry experts on cutting edge technologies including 5G, AI, Cloud Computing and Digital Power.

Final grade 100/100 cum laude

LANGUAGE SKILLS

Mother tongue(s): ITALIAN

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

MATLAB (Proficient) | LaTeX | Microsoft Powerpoint | Microsoft Word | Basics of C | Basics Of Python