

PERSONAL INFORMATION **Flavio Morselli**

WORK EXPERIENCE

2020 – Now **Occasional self-employed worker**

CNIT - Consorzio Nazionale Interuniversitario per le Telecomunicazioni

Main Project: EU H2020 “LOCUS” (Grant Agreement No. 871249)

- Device-free localization based on 5G signals of opportunity and non-3GPP signals (fundamental limits and algorithms).
- New 5G localization techniques based on soft information (range/angle likelihoods) and environmental information (digital maps, dynamics model, user profiles).

2017 – 2018 **Researcher**

Università degli Studi di FERRARA - Department of ENGINEERING

Main Project: “Tracking di oggetti non collaborativi”, Nov. 2017 - Oct. 2018

- Non-collaborative object localization via sensor-radar networks with dedicated signals.
- Experimental characterization of clutter backscatter echoes in sensor-radar networks via ultra-wideband impulse radios (X4 UWB radar, Xethru by Novelda).
- Development of clutter mitigation techniques.

Other activities:

- Research on multidimensional stochastic sampling applied to wireless sensor networks analysis and design.
- Education support for course projects.

PUBLICATIONS

F. Morselli, S. Bartoletti, and A. Conti, “Indoor residual clutter characterization for UWB sensor radar networks,” in *Proc. IEEE Workshop on Advances in Network Localization and Navigation (ANLN), Int. Conf. Commun. (ICC)*, 2020

F. Morselli, S. Bartoletti, S. Mazuelas, M. Z. Win, and A. Conti, “Crowd-centric counting via unsupervised learning,” in *Proc. IEEE Workshop on Advances in Network Localization and Navigation (ANLN), Int. Conf. Commun. (ICC)*, 2019

F. Morselli, F. Zabini, and A. Conti, “Environmental monitoring via vehicular crowdsensing,” in *Proc. IEEE 29th Annu. Int. Symp. Personal, Indoor, and Mobile Radio Communications (PIMRC)*, 2018

EDUCATION AND TRAINING

2018–Now **Corso di Dottorato di Ricerca in Scienza dell’Ingegneria, curriculum Ingegneria dell’Informazione****EQF level 8**

Università degli Studi di FERRARA - Department of ENGINEERING

3rd level degree - Research Doctorate Degree/Ph.D.

Competences: RADAR, Device-free Localization, Tracking, Signals-of-Opportunity, Wireless Sensor Networks, Machine Learning, Statistical Inference.

2015–2017 **Ingegneria Elettronica e delle Telecomunicazioni, Classe LM-29 (summa cum laude)** EQF level 7

Università degli Studi di FERRARA - Department of ENGINEERING

2nd level degree - Master's Degree obtained with "encomio"

Competences: Statistical Signal Processing, Information Theory, Coding Theory, Digital Communications, Wireless Communications & Networks, Peer-to-Peer Communications, Optimization Methods, Propagation & Antennas, Electromagnetic Compatibility, Optical Devices.

Thesis: "MIMO Communication Systems on FPGA: Design and Implementation". Competences acquired in MIMO systems with spatial diversity, space-time coding, synchronization techniques, FPGA prototyping.

2012–2015 **Ingegneria Elettronica e Informatica, Classe L-8 (summa cum laude)** EQF level 6

Università degli Studi di FERRARA - Department of ENGINEERING

1st level degree - Degree/Bachelor

Competences: Mathematical analysis, Geometry and linear algebra, Discrete mathematics, Physics, Analog & Digital electronics, Telecommunication Systems, Computer Networks.

Thesis: "Tecniche di localizzazione basate su segnali LTE di opportunità". Competences acquired in statistical inference, localization with signals of opportunity, clutter mitigation techniques, and radar networks.

2007-2012 **Pre-university studies** EQF level 5

Secondary school diploma: INDUSTRIAL TECHNICAL CERTIFICATE

School-leaving examination taken in (year): 2012

Grade: 100/100 with "lode"

Italian secondary school diploma

PERSONAL SKILLS

Mother tongue Italian

Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
[Common European Framework of Reference \(CEF\) level](#)

Digital competence

Operating systems: Good
Programming languages: Good
Word processing: Good
Electronic spreadsheet : Good
Data base administrators:Fair
Data transmission networks: Good
Web-site creation: Fair
Multimedia: Good
Programming languages known: Java, C, Python, \LaTeX , Matlab, Mathematica, PHP, SQL

- Computer skills
- good knowledge of the programming languages: C, Python
 - fair knowledge of the programming language: Java
 - basic knowledge of the programming language: PHP, SQL
 - extensive experience with numerical computing software Matlab and its programming language (both procedural and object-oriented programming)
 - extensive experience with \LaTeX markup language
 - extensive experience with Linux/Unix OS programming
 - experience with Windows OS programming
 - experience with Microsoft Office (Excel package in particular)

Driving licence B

ADDITIONAL INFORMATION

Privacy Il sottoscritto acconsente, ai sensi del D.Lgs. 30/06/2003 n.196, al trattamento dei propri dati personali.