

Fabrizio Carpi

Born in Montecchio Emilia, Italy, on 31-March-1993

Nationality: Italian and Brazilian

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Education

Oct 2015 – **Master of Science in Communication Engineering**, *University of Parma*,
Oct 2018 Parma, Italy.

English language program. Topics: Information Theory, Machine Learning, Internet of Things, Network Security, Applied Acoustics, Antennas, Photonics, Digital Communications, Wireless and Optical Communications. GPA: 29.53/30

Thesis: "Exploring Machine Learning Algorithms for Decoding Linear Block Codes".

Advisors: Riccardo Raheli, Henry D. Pfister, Christian Häger, Marco Martalò.

Final mark: *summa cum laude*

Mar 2018 – **Visiting scholar at Electrical and Computer Engineering Department**
Aug 2018 **and Information Initiative at Duke**, *Duke University*, Durham, NC, USA.

Exchange student at Duke University for 6 months, visiting Prof. Henry D. Pfister. I worked on my Master's thesis regarding machine learning techniques applied to telecommunications. In the first part we investigated about the optimization of Belief-Propagation decoding for linear block codes (with supervised learning). In the second part we proposed a novel approach for learning bit-flipping decoding strategy with reinforcement learning.

Dev tools: Python, Jupyter, Tensorflow, Google Colaboratory.

Oct 2012 – **Bachelor's Degree in Information Engineering**, *University of Parma*,
Dec 2015 Parma, Italy.

Curriculum telecommunications. Basic engineering courses about calculus, physics, signal theory and processing, communication systems, electronics, networking, programming. GPA: 27.38/30.

Thesis: "Experimental Study of SDN Network Architectures".

Advisors: Luca Veltri, Luca Davoli

Final mark: 106/110

Sep 2007 – **High School Diploma in Electronics and Telecommunications**, *Industrial Technical Institute ITIS "L. da Vinci"*, Parma, Italy.
Jul 2012

Technical institute with focus on basic electronics, computer science and telecommunications.

Final mark: 100/100 with honors. National award for graduating with honors and registration in the national register of excellence ("Albo delle eccellenze").

Work experience

- Nov 2018 – **Research Associate**, *IoT Lab, University of Parma*, Parma, Italy.
Present Working on outdoor/indoor localization in 5G systems. This project is sponsored by the Huawei Innovation Research Program (HIRP).
Principal Investigator: Prof. Gianluigi Ferrari.
- Aug 2011 **Apprentice Technologist**, *S.C. Elettromeccanica*, Campegine (RE), Italy.
5 weeks summer job. Main activities: electrician for both civil and industrial plants, installation and maintenance of electrical panels.
- Jul 2011 **Intern**, *Zapi s.p.a.*, Poviglio (RE), Italy.
3 weeks internship related to the 4th year of high school. Main activities: assembly and test of electronic systems.

Skills

- Languages **Italian (mother tongue), English (fluent), Portuguese (fluent).**
- Programming **C, Python, Tensorflow, Matlab.**
- Standardized tests **GRE (V 148, Q 168, W 3.0) and TOEFL (94)**, both taken in Nov 2018.

References

Prof. Riccardo Raheli, *University of Parma, Italy*.
Website: <http://www.tlc.unipr.it/raheli/>
Email: riccardo.raheli@unipr.it

Prof. Henry D. Pfister, *Duke University, USA*.
Website: <http://pfister.ee.duke.edu/>
Email: henry.pfister@duke.edu

Prof. Gianluigi Ferrari, *University of Parma, Italy*.
Website: <http://www.tlc.unipr.it/ferrari/>
Email: gianluigi.ferrari@unipr.it