

Giacomo Barzon

30-09-1996 | Italian | Padova, Italy

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- MSc. in [Physics of Data](#) at the University of Padova, a Master Degree recently activated that combines advanced knowledge in the field of Physics with a high-level training in Data Science.
- Currently pursuing my PhD in Neuroscience at the [Padova Neuroscience Center](#) under the supervision of Prof. Samir Suweis from the [Laboratory of Interdisciplinary Physics](#) at the University of Padova and Prof. Manlio De Domenico from the [CoMuNe Lab](#) at the [Bruno Kessler's Foundation](#).
- My main interests concern biological and complex systems, mainly the human brain, both from a theoretical and computational point of view.
- Over the years I have developed a good knowledge of computational simulations, data analysis and machine learning techniques, along with a consolidated background as a programmer, both in the academic and working fields, with an advanced knowledge of many programming languages.

Education

Ph.D. in Neuroscience

PADOVA NEUROSCIENCE CENTER, UNIVERSITY OF PADOVA

Padova, IT

Oct. 2021 - Today

- **Project:** "Controllability of brain networks"

M.S. in Physics of Data

UNIVERSITY OF PADOVA, FINAL GRADE: 110/110 WITH HONORS - GPA: 30/30

Padova, IT

Oct. 2018 - Apr. 2021

- **Final project:** "Structure-function relation in a stochastic whole-brain model at criticality"
— tag: Stochastic dynamics, Criticality, Master equation, Connectome, Brain networks
- **Core courses:** Statistical Mechanics, Complex Systems, Advanced Statistics, Lab. of Computational Physics, Machine Learning, Neural Network & Deep Learning, Biological Physics, Quantitative Life Science
- **Erasmus project,** University of Heidelberg, Germany - semester abroad fall 2019
— ECTS GPA: A/A
— Courses attended: Time Series Analysis & Recurrent Neural Networks, Computational Molecular Biophysics, Fundamentals of Simulation methods

B.S. in Physics

UNIVERSITY OF PADOVA, FINAL GRADE: 108/110 - GPA: 28.2/30

Padova, IT

Sep. 2015 - Sep. 2018

- **Final project:** "Advanced automatic analysis of Cloud Chamber images"
— tag: Cloud chamber, Machine learning, Convolutional neural network, Image segmentation

Experience

App developer

A4 SMART S.R.L.S. - FULL TIME, APPRENTICESHIP

Venice, IT

Dec. 2017 - June 2018

- Within the VATE (Virtual Assistant Turist Executive) project, funded by the Region with EU funds Por-Fesr, consists in the design of a smartphone app that acts as a historical-artistic and commercial guide in the historic center of Venice, integrating a CRM system and the navigation functionality also for visually impaired thanks to iBeacon technology.
- Developed app for mobile devices (iOS, Android), research and integration of iBeacon protocol.

Software Engineer Intern

HANDING S.A.S. - PART TIME

Padova, IT

Aug. 2016 - Dec. 2017

- Developed various apps for mobile devices (iOS, Android).
- Research and experimentation on signal propagation generated from beacons and their feasibility for geolocalization, both in internal and external environments.

Publications

Modelling the deceleration of COVID-19 spreading

GIACOMO BARZON ET AL.

J. Phys. A: Math. Theor. 54 044002

Jan 2021

Schools and Workshops

Workshop: Spatial Brain Dynamics

UNIVERSITY OF COPENHAGEN

Copenhagen, DK

May, 2021

The Promises and Dark Sides of Artificial Intelligence in NMR, MRI and Neurosciences

GIDRM AND UNIVERSITÀ DEGLI STUDI DI ROMA

Rome, IT

Jan. 2021 - Mar. 2021

Spring College on the Physics of Complex Systems

ICTP AND SISSA

Trieste, IT

Mar. 2021

International Winter School 'MRInference: From data to knowledge'

UNIVERSITY OF PADOVA

Padova, IT

Feb. 2021

Projects

Portfolio

A collection of my academic and work projects can be found at <https://github.com/gbarzon>.

Zero Robotics

- MIT's international high school programming competition in C.
- Implemented 3D vector physics and game strategy for an autonomous satellite simulation using the ZR API.
- European champion in 2014 with the 'E.Fermi, Padova' high school team .

Skills

Languages Italian (native language) English (proficient)

Programming Python (advanced) Swift (advanced) Matlab (advanced) R (advanced) Java (basic) C++ (basic)