Federico Sabbatini

OBJECTIVE OVERVIEW	Address:

I aim to reach a position thanks to which I can use and deepen my knowledge on computer science, with particular reference to machine learning, explainable artificial intelligence and numerical simulation.

WORK EXPERIENCES

April 2021 – Today
Research Fellow
University of Bologna "Alma Mater Studiorum", Cesena Campus, Cesena (FC), Italy
Knowledge engineering for the European AI. Design, modelling and development of a knowledge graph related to AI applications.

October 2019 – May 2021
Software and Web Application Development Teacher *(High-school education)*
Liceo Scientifico, Musicale e Coreutico "Guglielmo Marconi", Pesaro (PU), Italy
Core concepts of computer science and software development metodologies, practice of the following programming languages: C, HTML, CSS, JavaScript, PHP.

November 2020 – December 2020
Computer Science Teacher *(High-school education)*
Istituto Omnicomprensivo "Montefeltro", Sassocorvaro (PU), Italy
Theoretical concepts of computer science, MS Excel, binary code, HTML and CSS.

April 2020 – June 2020
Computer Science Teacher *(High-school education)*
Istituto di Istruzione Secondaria Superiore "M. Curie", Savignano sul Rubicone (FC), IT
Basic and advanced concepts of computer networks.

February 2020 – June 2020
PON Project – Additional Figure *(High-school education)*
Istituto di Istruzione Secondaria Superiore "M. Curie", Savignano sul Rubicone (FC), IT
Lessons on the ECDL; individual assistance for the creation of a digital book.

March 2017 – September 2017
Undergraduate Internship *(Computer science, data processing and acquisition)*
University of Urbino "Carlo Bo", Urbino (PU), Italy
Development of an interactive Python interface for FTP transfer and graphical representation of solar wind and interplanetary magnetic field data from the NASA website ftp://cdaweb.gsfc.nasa.gov.

EDUCATION

August 2 – 7, 2021
Cornell, Maryland, Max Planck Pre-doctoral School 2021, *Saarbrücken/online*

July 13 – 23, 2021
European Agent Systems Summer School 2021, Porto/online

2017 – 2020
Master's Degree in Computer Science and Engineering
University of Bologna "Alma Mater Studiorum", Cesena Campus, Cesena (FC), Italy
Thesis: "Interpretable Prediction of Galactic Cosmic-Ray Short-Term Variations with Artificial Neural Networks". **Final degree mark**: 110/110 *cum laude*

2011 – 2017
Bachelor's Degree in Applied Computer Science
University of Urbino "Carlo Bo", Urbino (PU), Italy
Thesis: "Monte Carlo Simulation of a Galactic Cosmic-Ray Flux Short-Term Depression Observed with LISA Pathfinder". **Final degree mark**: 110/110 *cum laude*

2006 – 2011
High-school degree
Technical Institute "Enrico Mattei", Urbino (PU), Italy
Final mark: 100/100

COMPUTER SKILLS

Programming languages	Most widespread languages belonging to both imperative and declarative paradigms: Python, C, C++, C#, Java, VB, Fortran, HTML, CSS, PHP, JavaScript and VBScript, Lua, LaTeX, SQL, Prolog, Scala, Kotlin, Assembly.
Software applications	MS Office and similar, most widespread IDEs, text editors and browsers, Windows and Linux command shells, simple graphics programs.

FOREIGN LANGUAGE SKILLS

Italian native speaker

	Listening	Reading	Spoken interaction	Spoken production	Writing
English	B2	C2	B2	C1	C2
Spanish	C2	C2	C2	C2	C2
French	B1	B2	B1	B1	B2
German	A1	A1	A1	A1	A1

SEMINARS

April 2019	**Geometrical Patterns in Nature – Lecturer** *University of Urbino "Carlo Bo", Urbino (PU), Italy* Discussion and numerical reproduction of the most widespread matematical and geometrical patterns found in animal and plant kingdom, in particular fractals, golden ratio, spirals, symmetries and Fibonacci sequence [link].
April 2018	**Monte Carlo Simulations – Lecturer** *University of Urbino "Carlo Bo", Urbino (PU), Italy* Main features of the Monte Carlo method, advantages and limitations of its application. Short history of the method evolution, from first applications (Buffon's needle problem, 1777) to current use in Astrophysics [link].

PUBLICATIONS

Submitted	F. Sabbatini *et al*., "On the Design of PSyKE: A Platform for Symbolic Knowledge Extraction." WOA 2021: Workshop "From Objects to Agents", September 1–3, 2021, Bologna, Italy (online). [link]
Accepted	C. Grimani *et al*., "Cosmic-ray flux predictions and observations for and with Metis on board Solar Orbiter." Astronomy & Astrophysics. [doi] [link]
May 2021	F. Sabbatini *et al*., "GridEx: An Algorithm for Knowledge Extraction from Black-Box Regressors." In: Calvaresi D., Najjar A., Winikoff M., Främling K. (eds) Explainable and Transparent AI and Multi-Agent Systems. EXTRAAMAS 2021. Lecture Notes in Computer Science, vol 12688. Springer, Cham. [link]
November 2020	C. Grimani *et al*., "Recurrent Galactic Cosmic-Ray Flux Modulation in L1 and Geomagnetic Activity during the Declining Phase of the Solar Cycle 24." The Astrophysical Journal 904.1 (2020): 64. [link]
February 2018	M. Armano *et al*., "Characteristics and Energy Dependence of Recurrent Galactic Cosmic-Ray Flux Depressions and of a Forbush Decrease with *LISA Pathfinder*." The Astrophysical Journal 854.2 (2018): 113. [link]

AWARDS

June 2018	Prize for the best academic *curriculum* in Applied Computer Science at the University of Urbino "Carlo Bo" for the year 2016/2017