



# MATTEO MAGNINI

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## IN SHORT

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Research Fellow at Department of Computer Science and Engineering (DISI), University of Bologna. Main research activities comprehends the fields of Artificial Intelligence, First Order Logic, Knowledge Representation and Machine Learning.

## EDUCATION

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### State Exam

*Industrial and Information Engineer*

**June, 2021**

*University of Bologna, Italy*

- Qualification for the profession of engineer.

### Master's degree

*Computer Science and Engineering*

**October, 2018 → March, 2021**

*University of Bologna, Italy*

- Studies in the field of programming paradigms, computational models, distributed systems, robotics, machine learning, artificial vision, web applications, business intelligence, data mining, big data.
- 110/110 *cum laude*

### Master's degree thesis

*An information theory analysis of critical Boolean networks as control software for robots*

**March 26, 2021**

*Relator: Prof. Andrea Roli*

- Identifying relationships between robots, controlled by critical random Boolean networks, successfully achieving the assigned task and defined information theory functions on sensors and actuators.
- External site: <https://amslaurea.unibo.it/23062>

### Bachelor's degree

*Computer Science and Engineering*

**September, 2015 → December, 2018**

*University of Bologna, Italy*

- Studies in the field of programming languages, operating systems, software engineering, algorithms, networking and web.
- 110/110 *cum laude*

### Bachelor's degree thesis

*Ottimizzazione Combinatoria mediante Deep Reinforcement Learning: Sperimentazione nella Logistica di Magazzino.*

**December 14, 2018**

*Relator: Prof. Gianluca Moro*

- Training and analysis of a neural network using Deep Reinforcement Learning to optimise the allocation of commodity in a warehouse with respect to picking frequency.
- External site: <https://amslaurea.unibo.it/17000>

### High-school diploma

*Scientific curriculum*

**2009 → 2014**

*Liceo Scientifico "A. Righi", Cesena (FC), Italy*

- Final mark 100/100

## EXPERIENCE

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### Teaching assistant for the course “Fondamenti di Informatica”

Feb., 2022 → Now

*School of Engineering and Architecture*

*University of Bologna, Italy*

- Computer architecture. Representation of Information. Algorithms and data structures. C programming language.
- Supervisor: Dr. Roberto Casadei
- Course Info: <https://apice.unibo.it/xwiki/bin/view/Courses/FINF2022>

### Research Fellow

Oct., 2021 → Now

*Department of Computer Science and Engineering (DISI)*

*University of Bologna, Italy*

- Project title: “Strumenti di logica computazionale per estrazione e iniezione di conoscenza simbolica da e verso predittori subsimbolici”
- Goal: producing a software for the symbolic extraction/injection from/into sub-symbolic predictors
- Supervisor: Prof. Andrea Omicini

### ETL product specialist

May 2021 → Oct., 2021

*Healthcare division*

*Onit Group, Cesena, Italy*

- Datawarehouse, database, web-services, customer care.
- Reference: Cecilia Zanella

### Tutor DM

Feb., 2021 → March 2021

*Educational services sector*

*University of Bologna*

- Technical support for mixed teaching and lessons supervision for Covid-19 prevention.

### Master's Degree students Representative in Course Council

July, 2019 → March 2021

*Computer Science and Engineering*

*University of Bologna*

- <https://corsi.unibo.it/magistrale/IngegneriaScienzeInformatiche/coordinatore-consiglio>

### Master's Degree students Representative in AQ Council

July, 2019 → March 2021

*Computer Science and Engineering*

*University of Bologna*

- <https://corsi.unibo.it/magistrale/IngegneriaScienzeInformatiche/commissioni>

### Internship

Oct., 2017 → Jan., 2018

*LIAM Lab*

*Spilamberto (MO), Italy*

- Study of OPCUA communication protocol
- Supervisor: Prof. Matteo Sartini

## DEVELOPMENT OF RESEARCH-RELATED SOFTWARE

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### PSyKE

November, 2021 → Ongoing

- a (python) platform for symbolic knowledge extraction from sub-symbolic predictors.
- <https://github.com/psykei/psyke-python>

## LANGUAGE SELF-ASSESSMENT

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	Listening	Reading	Interaction	Speaking	Writing
<b>Italian</b>	Native language				
<b>English</b>	C1	C1	B2	B2	B2
<b>French</b>	B2	B2	B1	B1	B1

## TECHNICAL STRENGTHS

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<b>Programming Paradigms</b>	imperative, object oriented, functional, logic
<b>Software configuration</b>	Windows and Linux installation and configuration
<b>Programming Languages</b>	Python, Java, Scala, C, C++, C#, Prolog, R, Lua, JavaScript, Php
<b>Data Analysis Tools</b>	R, Python + Pandas, NumPy, Scikitlearn, Keras, Weka and Meka
<b>Networking</b>	Socket (TCP & UDP), HTTP, RESTful WebAPI
<b>Databases</b>	SQL, MySQL, MongoDB, Vertica
<b>Development tools</b>	Git, Mercurial, Maven, Gradle, Docker
<b>Markup languages</b>	Markdown, L <sup>A</sup> T <sub>E</sub> X, HTML
<b>IDEs</b>	PyCharm, IntelliJ Idea, Visual Studio, Eclipse, Android Studio, RStudio

## ADDITIONAL INFORMATION

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**About me:** I am an engineer and software developer with experience in machine learning and data mining. I can both work in team or alone. I always prefer deep analysis and discussion on the problem along with wide research in literature before solving it.

**Interests:** Artificial Intelligence, Machine Learning, Logic, Data Mining, Artificial Vision, Robotics (swarm robotics and adaptation).

March 17, 2022

*Matteo Magnini*