



## Marco Pozza

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### ABOUT ME

I'm a master's graduate student in Artificial Intelligence with a strong passion for scientific research in this field and neuroscience. During my Bachelor's and Master's program, I developed a solid foundation in mathematics, logic, object-oriented programming, and different fields of artificial intelligence.

I then applied these skills in various programming work experiences.

These experiences fostered excellent collaboration and software design skills, along with strong autonomy and problem-solving abilities.

My goal is to leverage my Master's-level expertise by pursuing a PhD in Artificial Intelligence. I'm confident the PhD will allow me to further deepen my knowledge, contribute to innovative technologies, and acquire the skills necessary to become a successful researcher.

A highly motivated individual, I possess a strong work ethic and a burning desire to learn.

### WORK EXPERIENCE

[ 01/04/2024 – Current ]

#### AI Researcher Assistant

##### *Università degli studi di Padova*

**City:** Padova | **Country:** Italy

- Collaboration with Master's Thesis Supervisor
- Project: Systematic Review of Methodologies for Non-invasive Epilepsy Forecasting System using EEG

Contributing informally and on a volunteer basis to a systematic review identifying methodologies for an independent, non-invasive epilepsy forecasting system using EEG data. This research builds upon my Master's thesis project on "Forecasting epileptic seizures from electroencephalograms using Deep Neural Networks."

[ 01/02/2024 – Current ]

#### AI Researcher

##### *Università Ca'Foscari di Venezia*

**City:** Venezia | **Country:** Italy

- Study of Generative AI technologies for NLP environment
- Study of Large Language Models (LLMs) for Question Answering (QA) systems based on Retrieval-Augmented Generation (RAG)
- Explainable AI for Large Language Models

I began by studying the RAG system to create a working prototype. This prototype accepts documents in various formats and allows users to interact with it to understand the document content.

During the second phase, I led the development of the retrieval component for the RAG system by guiding a Master's student in their thesis research on advanced algorithms and techniques to optimize retrieval performance.

[ 15/04/2022 – 17/12/2023 ]

## **Full-stack software developer**

### ***Reply Core***

**City:** Padova | **Country:** Italy

Intesa Sanpaolo is a leading Italian banking group with over 6,000 branches and 140,000 employees. The company offers a wide range of financial services to individuals, businesses, and institutions.

Projects:

JBilling Intesa San Paolo and GEPSU Gestione Pratiche di Successione

Responsibilities:

- Develop new features, components and API for Jbilling
- Refactor existing code to improve performance and maintainability
- Manage the Jbilling database
- Work with other team members to deliver high-quality software
- Development of new features related to the heirs portal. They focus on the management of notifications from the entity to the heir

[ 05/11/2018 – 01/11/2020 ]

## **Junior Software Developer**

### ***Athesys s.r.l.***

**City:** Padova | **Country:** Italy

1. Developed identity and access management prototypes using Blockchain technologies (Sovrin, Ethereum, Hyperledger Fabric, Hyperledger Indy, Hyperledger Aries, Hyperledger Ursa) using different languages like Go and Solidity;
2. Developed frontend user interfaces using Angular6, NodeJs and Typescript;
3. Developed an automatic testing environment using Python, REST and SQL Databases
4. Studied identity and access management technologies (Forgerock);

[ 09/2020 – 12/2020 ]

## **AI Engineer (internship)**

### ***M31 Italia Srl***

**City:** Padova | **Country:** Italy

1. Developed an anomaly detection algorithm on recorded video frames of industrial tissue using Python and OpenCV;
2. Developed a face re-identification process using convolutional neural networks, TensorFlow and Python;
3. Studied different quantization methods and applied post-training integer quantization to the models developed in order to run on embedded systems.

[ 06/2018 – 08/2018 ]

## **Back-end Developer (internship)**

## **Athesys s.r.l.**

**City:** Padova | **Country:** Italy

- Study of a system for Identity and Access Management based on Blockchain technology (Ethereum)
- Development of the Blockchain module integrated into the IAM system
- Testing of the developed module

## **EDUCATION AND TRAINING**

[ 01/10/2019 – 15/12/2023 ]

### **Mater Degree in Computer Science**

**Università degli studi di Padova**

**City:** Padova | **Country:** Italy | **Field(s) of study:** Artificial Intelligence ; Neuroscience ; Signal Processing | **Final grade:** 103 | **Thesis:** Forecasting epileptic seizures from electroencephalograms using Deep Neural Networks.

#### **Master thesis:**

Forecasting epileptic seizures from electroencephalograms using Deep Neural Networks.

#### **Publications:**

A Comparison of Recurrent and Convolutional Deep Learning Architectures for EEG Seizure Forecasting

co-authored with: Dr. Sina Shafieezadeh and Professor Alberto Testolin

Winner of "Best student paper award" at 17th International Conference on Bio-inspired Systems and Signal Processing (BIOSIGNALS/BIOSTEC) held in Rome - Italy, February 21 - 23, 2024

#### **Academic background:**

1. Artificial Intelligence;
2. Innovation and Entrepreneurship in ICT;
3. Cognitive Science.

#### **Associations:**

1. Member of "UDU Studenti per";
2. Student representative for the master degree course in computer science;
3. Member of GAV.

[ 01/10/2014 – 28/09/2018 ]

### **Bachelor Degree in Computer Science**

**Università degli studi di Padova**

**City:** Padova | **Country:** Italy | **Field(s) of study:** Blockchain ; Identity Access Management | **Final grade:** 104 | **Thesis:** Identity Trust Fabric: A Blockchain-based Identity and Access Management System

[ 01/09/2009 – 03/07/2014 ]

### **Technical High School Diploma in Computer Science**

***Istituto Tecnico Industriale E. Fermi***

**City:** Bassano del Grappa (VI) | **Country:** Italy |

[ 18/08/2013 – 22/09/2013 ]

**Europass Mobility Certificate - Leonardo da Vinci Programme**

***Conlan School Ltd Abergel***

**City:** Galles | **Country:** United Kingdom |

[ 22/07/2012 – 05/09/2012 ]

**Study abroad.**

***Gest association***

**City:** Londra | **Country:** United Kingdom |

**LANGUAGE SKILLS**

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**Mother tongue(s):** Italian

**Other language(s):**

**English**

**LISTENING B2 READING B2 WRITING B2**

**SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2**

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

**ORGANISATIONAL SKILLS**

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**Softskills**

**Organizational Skills**

- Thriving under pressure, I honed my organizational skills during my years as a full-stack programmer, particularly as an intern guide. Effectively managing my workload while mentoring and supporting junior developers, I ensured project deadlines were met while fostering a collaborative learning environment.

**Relational Skills**

Building strong relationships is key to success.

- Family business experience instilled in me the importance of clear communication and customer focus.
- As an external consultant and project presenter, I effectively communicated complex technical concepts to diverse audiences, fostering productive collaborations with clients and colleagues.

**Analytical and Critical Thinking**

- My Master's thesis not only deepened my technical knowledge but also ignited my passion for research and critical thinking. Analyzing and evaluating data within the context of technological advocacy topics allowed me to develop a strong analytical mind capable of identifying challenges and proposing innovative solutions.

### Competenze professionali

Good knowledge of development processes

Knowledge of programming and markup languages:

- C
- C++
- C#
- Java
- Javascript
- Typescript
- LaTeX
- MathLab
- PHP
- Python
- HTML
- CSS
- Pytorch
- Tensorflow
- Optuna
- Keras
- Scikit learn
- Pandas
- Numpy

Database:

- SQL
- MongoDB
- Postgress

Version control systems (VCS) and project management tools:

- Gitlab
- Github
- Asana

Frameworks:

- Pytorch lightning
- Langchain
- Anaconda

## TRATTAMENTO DEI DATI PERSONALI

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### Trattamento dei dati personali

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 del Regolamento UE 2016/679 relativo alla protezione delle persone fisiche con riguardo al trattamento dei dati personali.

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*Autorizzo il trattamento dei miei dati personali presenti nel CV ai sensi dell'art. 13 d. lgs. 30 giugno 2003 n. 196 - "Codice in materia di protezione dei dati personali" e dell'art. 13 GDPR 679/16 - "Regolamento europeo sulla protezione dei dati personali".*