



# Fabio Turazza

**Date of birth:** 11/08/1999 | **Nationality:** Italian | **Phone number:** (+39) 3771209772 (Mobile) |

**Email address:** [fabtura@gmail.com](mailto:fabtura@gmail.com) |

**Address:** Via Arnaldo da Brescia, 11, 46034, Borgo Virgilio, Italy (Home)

## WORK EXPERIENCE

### TEACHING AND TRAINING ACTIVITIES - W.TRAINING SRL - 03/06/2025 - Current - ITALY

- Instructor for a 32-hour course on machine learning, deep learning and generative AI
- Instructor for three 12-hour editions of an Innovation Manager course on emerging technologies, including AI, blockchain and cloud computing.
- Instructor for a 16-hour course on machine learning, IoT and AIoT.

### RESEARCH FELLOWSHIP - CONNECTING THE PHYSICAL AND DIGITAL WORLDS THROUGH TRUSTWORTHY DATA-FLOWS - UNIMORE (DISMI) - 01/06/2024 - 31/10/2024 - REGGIO EMILIA, ITALY

#### Research Areas

- Research and development of Digital Twin in the PRIN PNRR DATRUST project
- Research and development of Federated Learning and Deep Learning techniques for anomaly detection in Cyber-Physical Systems
- Study of Cyber-Security techniques, including DP, HE, SMPC and ZKP, with subsequent application to Distributed Federated Learning contexts

### UNIVERSITY INTERNSHIP IN THE FIELD OF FEDERATED LEARNING - FLOWER - UNIMORE - 14/09/2023 - 14/01/2024 - MODENA, ITALY

#### Research Areas

- Deep dive into state-of-the-art Federated Learning architectures
- Study of the Flower framework for Federated Learning
- Identification and application of a Federated architecture to a real-world case in collaboration with MASA and TIM, comparing it with common horizontal and vertical use case

#### Cyber-Security applied to Federated Learning

- Learning state-of-the-art techniques in Cryptography and Privacy applied to AI
- Study and application of Differential Privacy for Federated Learning using the Opacus framework
- Study and application of Homomorphic Encryption for Federated Learning using the TenSeal framework

#### Practical Contribution

- Drafting a scientific article on the usefulness of Federated Learning in the commercial sector—supply chain—as a foundation for future work in the energy and industrial domains

### SCHOLARSHIP IN PARTNERSHIP WITH HIPERT SRL - HIPERT SRL - 16/06/2023 - 16/12/2023 - MODENA, ITALY

- Enhancement of knowledge in the field of high-performance Embedded Systems
- Exploration of state-of-the-art methodologies and implementation of key data-driven approaches in the field of autonomous driving

### LABORATORY ACTIVITIES - IOT SYSTEM ARCHITECT FOR MASA - UNIMORE - 01/12/2022 - 15/06/2023 - MANTOVA, ITALY

- Study and design of the MASA (Modena Automotive Smart Area) architecture
- Utilization of IoT-relevant technologies such as Prometheus, Grafana, and various Python frameworks related to communication protocols

### LABORATORY ACTIVITIES - HMI DESIGNER AND DEVELOPER FOR THE CEMP PROJECT - DELL'ORTO S.P.A. - OCTO TELEMATICS - ENERGICA - UNIMORE - 01/10/2022 - 13/11/2022 - MILANO, ITALY

- Development of the signaling interface for an ARAS device
- Presentation of the CEMP project to potential investors at the world's largest motorcycle exhibition (EICMA)
- Collaboration with some of the leading Italian companies in urban mobility and eco-sustainability
- The project was showcased at the global motorcycle exhibition, EICMA 2022

- Development and analysis of a Serverless architecture and its interoperability with key IoT protocols
- Design and study of architectures using the Kubernetes orchestration software
- Development and analysis of microservices architectures using Docker

COMMENTATOR ON THE "NEWS CHATTING" PROGRAM - YOUTUBE - GAZZETTA DI MANTOVA - 14/03/2021 - 12/06/2021 - MANTOVA, ITALY

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- Discussion of current events focusing on major political, technological, and sports news of 2021
- Delivered talks on trending topics to a potentially large audience

INTERNSHIP AT HRS S.R.L. - 28/05/2017 - 22/06/2017 - PORTO MANTOVANO, ITALY

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- Development of robotic handling systems

INTERNSHIP AT RBC - 29/05/2016 - 23/06/2016 - BORGO VIRGILIO, ITALY

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- Repair of fuel distribution systems
- Collaboration in the construction of the fuel distribution system at Mantova Village

● **EDUCATION AND TRAINING**

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01/11/2024 - CURRENT Reggio Emilia, Italy

**PHD PROGRAM IN "INDUSTRIAL INNOVATION ENGINEERING"** DISMI, Unimore

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**Research Areas**

- Cyber-Security and "Trustworthy" methods applied to distributed AI
- Application of Federated Learning techniques with multimodal data
- Management of two key elements: heterogeneity and scalability in the context of FL (Federated Learning)

**Website** <https://www.iii.unimore.it>

25/07/2021 - 18/04/2024 Modena, Italy

**MASTER'S DEGREE IN COMPUTER ENGINEERING - SPEC. ARTIFICIAL INTELLIGENCE** Unimore

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**Main Courses**

- Computer Vision and Cognitive Systems
- Machine Learning and Deep Learning
- Distributed Artificial Intelligence

**Address** Via P. Vivarelli, 10, 41125, Modena, Italy | **Final grade** 108/110 |

**Thesis** Analysis and Comparison of Federated Learning architectures for distributed applications: a Vertical case study in partnership with MASA and TIM

25/07/2018 - 02/12/2021 Mantova, Italy

**BACHELOR'S DEGREE IN COMPUTER ENGINEERING** Unimore

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**Main Courses**

- Cyber-Physical Security
- Machine Learning
- Artificial Vision Systems

**Address** Via Angelo Scarsellini, 2, 46100, Mantova, Italy | **Website** <https://www.unimore.it/> | **Final grade** 96/110 |

**Thesis** Interoperabilità in architetture Serverless per scenari di Internet of Things

11/09/2013 - 04/07/2018 Mantova, Italy

**HIGH SCHOOL DIPLOMA - ELECTRONICS PROGRAM** Istituto superiore ITIS Fermi

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**Address** Strada Spolverina, 5, 46100, Mantova, Italy | **Website** <https://www.fermimn.edu.it/>

31/12/2017 - 28/02/2018 Mantova, Italy

**ROBOTICS COURSE** Istituto superiore ITIS Fermi

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**Address** Strada Spolverina, 5, 46100, Mantova, Italy

Development of an ARAS System in Collaboration with Hipert SRL  
• Project presented at EICMA 2022

Address 46100, Mantova, Italy | Website <https://edu.ltomantova.it/> | Final grade Third Place

Design and Development of a Sharing Platform in Collaboration with the Consorzio Agricolo Mantovano

Address 46100, Mantova, Italy | Website <https://edu.ltomantova.it/> | Final grade Second Place

Design of an AI System for Prediction and Monitoring of Electrical Consumption in Partnership with Aqua

Website <https://edu.ltomantova.it/>

LANGUAGE SKILLS

Mother tongue(s): ITALIAN  
Other language(s):

|         | UNDERSTANDING |         | SPEAKING          |                    | WRITING |
|---------|---------------|---------|-------------------|--------------------|---------|
|         | Listening     | Reading | Spoken production | Spoken interaction |         |
| ENGLISH | B2            | B2      | B2                | B2                 | B2      |

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

SKILLS

Social

LinkedIn | Twitter | Instagram | Facebook

Computer Science Skills

Federated Learning | Deep Learning | PyTorch, Keras | Docker Containers | Basics in Reinforcement Learning | Generative Learning | Computer Vision | Flower | Cyber security and Data Analytics | Encrypton and CS methods like DP, HE, SMPC, ZKP | Privacy and data Confidentiality | Cloud Computing (IaaS, PaaS, SaaS, BaaS, FaaS, CaaS, Serverless) | Microsoft Azure Services | Google Cloud | Apache OpenWhisk

PUBLICATIONS

2026  
The Gaussian-Head OFL Family: One-Shot Federated Learning from Client Global Statistics

23-27 April 2026 | Rio De Janeiro, Brazil

Authors: Fabio Turazza, Marco Picone, Marco Mamei | Journal Name: The Fourteenth International Conference on Learning Representations (ICLR 2026)

2025  
Digital Twins & ZeroConf AI: Structuring Automated Intelligent Pipelines for Industrial Applications

5-8 October 2025 | Vienna, Austria

Authors: Marco Picone, Fabio Turazza, Matteo Martinelli, Marco Mamei | Journal Name: IEEE International Conference on Systems, Man, and Cybernetics (SMC 2025)

2025  
FedBGS: A Blockchain Approach to Segment Gossip Learning in Decentralized Systems

20 July 2025 | Glasgow, Scotland

Authors: Fabio Turazza, Marcello Pietri, Marco Picone, Marco Mamei | Journal Name: 46th International Conference on Distributed Computing Systems-Workshop (ICDCS-W 2025)

2-5 July 2025 | Bologna, Italy

**Authors:** Fabio Turazza, Alessandro Neri, Marcello Pietri, Maria Angela Butturi, Marco Picone, Marco Mamei | **Journal Name:** 30th IEEE Symposium on Computers and Communications (ISCC 2025)

18-20 November 2024 | Napoli, Italy

**Authors:** Fabio Turazza, Marcello Pietri, Natalia Selini Hadjidimitriou and Marco Mamei | **Journal Name:** 16Th International Conference On Management Of Digital Ecosystems (MEDES 2024)