# Elena Yan


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## Education

11/2023 – Today
- **PhD Student in Computer Science**
  MINES Saint-Étienne, Saint-Étienne, France
  **Thesis Subject:** *Self-Adaptive Regulation Mechanisms for a Trustworthy and Sustainable Industry of the Future*
  **Supervisors:**
  **Prof. Olivier Boissier** – MINES Saint-Étienne, Thesis Director
  **Prof. Jaime Simão Sichman** – University of São Paulo, co-director
  **Prof. Luis Gustavo Nardin** – MINES Saint-Étienne, co-supervisor
  **Keywords:** Multiagent Systems, Normative Systems, Responsible AI, Industry of the Future
  **Funding:** ANR/FAPESP ANR-22-CE23-0018 Normative Artificial Intelligence for regulating MANufacturing - NAIMAN Project

09/2021 – 10/2023
- **Master Degree in Computer Science and Engineering**
  Alma Mater Studiorum - University of Bologna, Campus of Cesena, Italy
  **Class n.** LM-32 - 2nd level degree in Computer Engineering
  **Graduation grade:** 110/110 with Honors
  **Thesis title:** *A Multi-Level Explainability Framework for BDI Multi-Agent Systems*
  **Subjects:** Pervasive Computing
  **Supervisor: Prof. Alessandro Ricci**
  **Co-Supervisors: Prof. Jomi Fred Hübner, Samuele Burattini**
  **Keywords:** Agent-oriented software engineering, Multi-Agent Systems, Debugging agent program, Explainability, BDI agents, JaCaMo framework
  **URL:** https://amslaurea.unibo.it/29644

09/2018 – 07/2021
- **Bachelor Degree in Computer Science and Engineering**
  Alma Mater Studiorum - University of Bologna, Campus of Cesena, Italy
  **Class n.** L-8 - 1st level degree in Information Technology
  **Graduation grade:** 98/110
  **Thesis title:** *Telemedicine and Wearable Computing to Support Healthcare Professionals in Stroke Diagnosis: the TeleStroke Project as a Case Study*
  **Subjects:** Embedded Systems and Internet of Things
  **Supervisor: Prof. Alessandro Ricci**
  **Co-Supervisors: Prof. Angelo Croatti**
  **Keywords:** Wearable Computing, Smartglasses, Telemedicine, Teleconsultation, TeleStroke, Usability
  **URL:** https://amslaurea.unibo.it/23876/ (Italian)

09/2013 – 07/2018
- **Secondary High School Diploma**
  Liceo Artistico e Musicale 'Antonio Canova', Forlì, Italy
  **Specialization:** Industrial Design
  **Graduation grade:** 85/100

## Publications

1. **E. Yan**, L. G. Nardin, J. F. Hübner, and O. Boissier, *An agent-centric perspective on norm enforcement and sanctions*, International Workshop on Coordination, Organizations, Institutions, Norms and Ethics for Governance of Multi-Agent Systems, 2024. DOI: 10.48550/arxiv.2403.15128.

2. **E. Yan**, S. Burattini, J. F. Hübner, and A. Ricci, "Towards a multi-level explainability framework for engineering and understanding bdi agent systems," in *Proceedings of the 24th Workshop "From Objects to Agents" (WOA 2023)*, R. Falcone, C. Castelfranchi, A. Sapienza, and F. Cantucci, Eds., ser. CEUR Workshop Proceedings, vol. 3579, Rome: CEUR-WS.org, 2023. URL: https://ceur-ws.org/Vol-3579/paper17.pdf.

## Scientific Activities

### Presentations

2024
- **An Agent-Centric Perspective on Norm Enforcement and Sanctions**, *25th Workshop "From Objects to Agents" (Dissemination Track)*, 7th-10th July 2024, Forte di Bard, Italy.
- **An Agent-Centric Perspective on Norm Enforcement and Sanctions**, *International Workshop on Coordination, Organizations, Institutions, Norms and Ethics for Governance of Multi-Agent Systems AAMAS@COINE2024*, Auckland, New Zealand, May 7, 2024.
- **Self-adaptive Regulation Mechanisms for a Trustworthy and Sustainable Industry of the Future**, *IMT 2024 Colloquium "Responsible Industry of Future"*, 23th-25th April 2024, Gardanne, France.

2023
- **Towards a Multi-Level Explainability Framework for Engineering and Understanding BDI Agent System**, *24th Workshop "From Objects to Agents" WOA23*, 6th-8th November 2023, Rome, Italy.

### Review Activity

2024
- Sub-reviewer for @ECAI - 27th European Conference on Artificial Intelligence

## Teaching

### Tutoring

2024
- **Object Oriented Programming**, Practical Sessions, 42 hours, graduate course in Science and Engineering — ICM (Ingénieur Civil des Mines) 1A, MINES Saint-Étienne, Saint-Étienne.
- **Industrial Risk and Accident Project**, Scientific research tutor, 8 hours, graduate course in Science and Engineering — ICM (Ingénieur Civil des Mines) 1A, MINES Saint-Étienne, Saint-Étienne.

## Work Experience

03/2021 – 05/2021
- **Curricular Internship**
  Alma Mater Studiorum - University of Bologna, Campus of Cesena, Italy
  Pervasive Software Lab - PSLAB
  *Design and development of software components for wearable technology systems applied in the healthcare field.*

09/2018 – 05/2019
- **Waitress**
  Giardino Wu, Forlì, Italy
  *Responsible for table service, guest reception, and phone call management.*

01/2017 – 02/2017
- **Curricular Internship**
  Municipality of Forlì, Forlì, Italy
  Traffic Office
  *Image processing and rendering of municipal plans and projects related to traffic management.*

05/2016 – 06/2016
- **Curricular Internship**
  Arte e Ricamo S.r.l. Forlì, Italy
  *Organization and management of the company's archive, including cataloguing, indexing, and monitoring of documents and information.*

## Professional Development

22 - 26/07/2024
- **2024 Summer School on AI Technologies for Trust, Interoperability, Autonomy and Resilience in Industry 4.0**
  *MINES Saint-Étienne, Saint-Étienne, France*
  The summer school aims to teach the state of the art of the use of AI technologies and models to tackle the challenges of data revolution and to increase automation of cognitive tasks to develop a trustful and resilient Industry 4.0 (or Industry of the Future).

17 - 28/07/2023
- **Advanced Summer School in Artificial Intelligence**
  *University Residential Center of Bertinoro (Ce.U.B), Italy & Department of Computer Science and Engineering, University of Bologna*
  The school aims to provide an overview of artificial intelligence, illustrate its main fields of application and related issues, and present the fundamentals of some of the main issues that are currently underpinning the countless successful technologies that have entered industrial, economic and social processes.

## Skills

### Languages

Mother language
- Chinese

## Skills (continued)

Other languages
- Italian, Fluent
  English, Intermediary
  French, Basic

### Programming skills

Programming languages
- ●●●●● **Java** ●●●●○ **Kotlin** ●●●●○ **Scala**
  ●●●●○ **JavaScript** ●●●○○ **Python** ●●●○○ **Prolog**
  ●●●●○ **TypeScript** ●●●○○ **Lua** ●●●○○ **C**
  ●●○○○ **C++** ●●○○○ **C#**

Technologies and frameworks
- ●●●●● **JaCaMo** ●●●●○ **Android** ●●●●○ **Node.js**
  ●●●●○ **React** ●●●○○ **Angular** ●●○○○ **Vue.js**
  ●●●●○ **Gradle** ●●●○○ **Docker** ●●●○○ **MongoDB**
  ●●●●● **Git**

Other languages
- YAML, HTML, CSS, SCSS, XML, JSON, LaTeX, Markdown

Programming Paradigms
- Object Oriented Programming, Functional Programming, Agent Oriented Programming, Logic Programming, Event Driven Programming, Imperative/Procedural Programming

## Portfolio

03/2023 – Today
- **A Multi-Level Explainability Framework for BDI Multi-Agent Systems**
  **Keywords:** Multi-Agent Systems, BDI Agent Model, JaCaMo, Jason, Explainability
  In this project, we build on top of the idea of using logs to examine the behaviour of a software system by applying it to multi-agent systems with a novel angle which is to include multiple levels of explanation generated from the same set of logs. Commonly, explainability in agent systems is achieved by focusing on a single agent that produces a single explanation for a single purpose. Our research introduces a different approach by presenting an explainability framework for agents and multi-agent systems that deals with multiple levels of abstraction that can be used for different purposes by different classes of users.
  `https://github.com/yan-elena/agent-logging`
  `https://github.com/yan-elena/agent-explanation`
  `https://github.com/yan-elena/domestic-robot-example`

05/2023 – 06/2023
- **Grammatical Error Correction**
  **Subject:** Deep Learning
  **Keywords:** Deep Learning, Recurrent Neural Networks, Transformers
  The aim of the project is to evaluate the performance of several deep learning models on the Grammatical Error Correction (GEC) task, which consists of transforming a potentially wrong input sentence into a corrected version.
  See in Colab

## Portfolio (continued)

11/2022 – 03/2023
- **Smart Greenhouse**
  **Keywords:** Microservices, CI/CD, Domain Driven Design, Arduino
  **Subject:** Smart City, Laboratory of Software Systems
  The aim of the project is to realise a smart system that enables the management and monitoring of a greenhouse.
  `https://github.com/SmartGreenhouse-22-23/`

07/2022 – 10/2022
- **SmartGH**
  **Keywords:** Scala, Prolog, Functional Programming, Logic programming, SCRUM
  **Subject:** Programming and Development Paradigms
  The aim of the project is to simulate the management of an intelligent greenhouse, able to interact with the environment in which it is located through sensors that detect relevant parameters for plant growth and receive updates on external environmental conditions.
  `https://github.com/AnnaVitali/PPS-22-smartgh`

04/2022 – 06/2022
- **Talking Campus**
  **Keywords:** MERN, Socket.io, React, MongoDB, Docker
  **Subject:** Web Applications and Services
  The aim of this project is to provide students with information on campus locations and spaces, giving them the possibility to view lectures, and free and occupied classrooms and to manage reservations of places in study rooms or the library.
  `https://bitbucket.org/ele-anna/talkingcampus/src/master/`

## Honors and Awards

2023
- **Best Paper Award** – 24th Workshop "From Objects to Agents" WOA 2023

23/05/2018
- **Ideas Competition for the Design of the Logo for the Various Fields of Application of the Municipality of Forlì**
  The competition involved the creation of a logo for the Municipality of Forlì. The designed logo is currently being used across various areas of the municipality's activities.
  `https://www.forlitoday.it/cronaca/un-logo-delle-attivita-comunali-in-mostra-gli-elaborati-degli-studenti.html`

25/04/2018
- **First National Art Prize "Iris Versari" 2nd Edition**
  Municipality of Forlì - 73rd Anniversary of Liberation
  Prize in memory of the partisan and Gold Medal recipient for military valour, Iris Versari.