



# ELENA MASSERINI

## COMPUTER SCIENCE RESEARCHER

Master's degree graduate in Computer Science and software engineering researcher, currently specializing in the fields of virtual AI agents testing and of failure reproduction for Android applications. I'm passionate about software development, programming, research and teaching. I am a very organized and precise person, always interested in learning something new and with good skills in problem solving, communication and teamwork.

## EDUCATION

### Master's Degree in Computer Science

Università degli Studi di Milano - Bicocca | Oct. 2022 - Oct. 2024

Grade: 110L | Average: 30.0

**Thesis:** Context-aware reproduction of malfunctions in Android apps

**Description:** Definition and implementation of a Record, Rebuild and Replay approach for automated reproduction of malfunctions in Android applications.

**Supervisor:** Leonardo Mariani, Daniela Micucci

### Bachelor's Degree in Computer Science

Università degli Studi di Milano - Bicocca | Sept. 2019 - July 2022

Grade: 110L | Average: 29.7

**Thesis:** Experimentation of anonymization techniques supporting faults reproduction in Android applications

**Description:** Study on the impact of different privacy-preserving techniques for user data on the ability to reproduce malfunctions in Android apps.

**Supervisor:** Daniela Micucci, Davide Ginelli

### Scientific High School Diploma

Liceo Scientifico Filippo Lussana | Sept. 2013 - July 2018

Grade: 97/100

## EXPERIENCE

### Research Grant - Assegno di Ricerca

Università degli Studi di Milano - Bicocca | March 2025 - March 2026 | 12 months

**Description:** research activity focused on designing testing techniques for chatbots.

**Supervisors:** Leonardo Mariani, Daniela Micucci

**Collaborators:** Diego Clerissi (Università degli Studi di Milano - Bicocca), Joao R. Campos (University of Coimbra), Marco Vieira (University of Charlotte)

### Research Grant - Borsa di Ricerca

Università degli Studi di Milano - Bicocca | March 2024 - Feb 2025 | 12 months

**Description:** research activity focused on security testing techniques for conversational - virtual AI agents (chatbots) via fuzzing strategies.

**Supervisors:** Leonardo Mariani, Daniela Micucci

**Collaborators:** Diego Clerissi (Università degli Studi di Milano - Bicocca), Joao R. Campos (University of Coimbra), Marco Vieira (University of Charlotte)

### Research Grant - Borsa di Ricerca

Università degli Studi di Milano - Bicocca | Nov. 2022 - Oct. 2023 | 12 months

**Description:** research activity focused on user data anonymization in bug reports of Android malfunctions via privacy preserving techniques.

**Supervisors:** Daniela Micucci, Leonardo Mariani

## CONTACTS



Presezzo (BG)



19-04-1999, Bergamo



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e.masserini2@campus.unimib.it



<https://www.linkedin.com/in/elena-masserini>

## SKILLS

Programming	●●●●●
Java	●●●●●
Android	●●●●●
C, C++	●●●●●
Python	●●●●●
HTML, CSS	●●●●●
JavaScript	●●●●●
SQL	●●●●●
Git	●●●●●
Unity	●●●●●
Problem Solving	●●●●●
Team Work	●●●●●
Time Management	●●●●●

## LANGUAGES

Italian	●●●●●
English	●●●●●
Spanish	●●●●●

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## Teaching Assistant - Laboratorio di Matematica e Informatica

Università degli Studi di Milano- Bicocca | 2024/25 - 24 hours

Teaching laboratory assistant for the Maths Bachelor's course "Laboratorio di Matematica e Informatica" about Java programming.

## Teaching Assistant - Algoritmi e Programmazione

Università degli Studi di Milano- Bicocca | 2024/25 - 12 hours

Teaching laboratory assistant for the Maths Bachelor's course "Algoritmi e Programmazione" about Java object oriented programming.

## Tutor - Programmazione di Dispositivi Mobili

Università degli Studi di Milano- Bicocca | 2023/24, 2024/25 - 40 hours

Tutoring activity for the Computer Science Bachelor's course "Programmazione di Dispositivi Mobili" about Android apps development.

## Academic Thesis Tutor

Università degli Studi di Milano- Bicocca | 2024 - present

Supervised and tutored over 10 bachelor students during their 3-months stage and thesis projects at university.

## Tutoring

Aug. 2018 - present

Maths, Physics and Computer Science tutoring for high school and university students.

## Study Tours Experience - Rider University

July 2016

Advanced level language and culture summer school program at Rider University.

## Guide SMAU Milan

Oct. 2022, Oct. 2023, 40 hours

Guide in an innovation and start-up exhibition from all Italy.

## TOP - Tutoring Online Project

April 2020 - May 2020, 30 hours

Volunteer tutoring for a middle school student with project TOP, organized by Università Bocconi and Harvard University to help young students in fragile contexts during the Covid period.

## PUBLICATIONS

### Anonymizing Test Data in Android: Does It Hurt?

Elena Masserini, Davide Ginelli, Daniela Micucci, Daniela Briola, Leonardo Mariani

In 5th ACM/IEEE International Conference on Automation of Software Test (AST 2024) (AST '24), April 15-16, 2024, Lisbon, Portugal. ACM, New York, NY, USA, 11 pages <https://doi.org/10.1145/3644032.3644463>

**Subject:** analysis of the effectiveness of privacy-preserving techniques, when given an input that causes a bug in an Android application, in anonymizing this data while preserving its ability to cause the bug.

**Award:** Best Paper Runner-Up Award - AST 2024

### Insegnami A Volare

Lubrini Bramani Editore, 2019 | ISBN 8877666927

Collaborative book following the struggles of various characters during the Siege of Sarajevo, supervised by A. Pozzi

## AWARDS

### Best Paper Runner-Up Award - AST 2024

Best Paper Runner-Up Award for "Anonymizing Test Data in Android: Does It Hurt?", Elena Masserini, Davide Ginelli, Daniela Micucci, Daniela Briola, Leonardo Mariani, In 5th ACM/IEEE International Conference on Automation of Software Test (AST 2024)

### STEAMiamoci Scholarship

Assolombarda, STEAMiamoci Project | 2020

## **Maria Gaetana Agnesi Award**

Assolombarda, STEAMiamoci Project | 2020

## **First Prize, "Scribo Ergo Sum" Writing Contest**

Bergamo writing contest for High School students | 2018

**Theme:** promotion of diversity and inclusivity

## **Lubrina Special Mention, "Scribo Ergo Sum" Writing Contest**

Bergamo writing contest for High School students | 2017

**Theme:** Freedom

## **P R O J E C T S**

### **ABRACADABRA**

Record, Rebuild and Replay automated system to reproduce malfunctions in Android applications via partial recording of user actions, complete sequence reconstruction based on an application state graph and automatic actions replay and malfunction assessment.

### **Rasa Chatbot Dataset**

Dataset of open source chatbots of platform Rasa from GitHub repositories, annotated with complexity and language parameters.

### **Turtle Money-Bag**

Android mobile application, team project for personal finance management and receipts data extraction.

### **Smart Train**

Arduino IoT project for an University exam. System to monitor and control simulated wagons (ESP boards) in a smart train from a web interface, with a NodeJS web server and MQTT communication with ESP boards.

### **Toxic comment classification**

University deep learning project, using transformers models to classify online comments into various toxicity categories.

### **Escape Room VR**

An escape room game in VR built with Unity where the user has to solve puzzles to open the door room.