

KARINA CHICHIFOI

Master's Degree Student in Computer Engineering



BIO

Since I was a child I feel that I belong to our future world, the digital one. I am really interested in every field concerning computer science, from games and application development, to IT security, in my opinion fundamental nowadays.

An environment that is fascinating to me is the Artificial Intelligence one: I want to discover every single grain of its composition.

I am really driven by curiosity, which makes me overcome anything. My code is the representation of creativity taking form. Through a keyboard and with a thirst of knowledge I hope my software could revolutionize the world.

EXPERIENCES

CyberChallenge.IT 2023 Tutor

CINI - Cybersecurity National Lab

📅 Feb 2023 – Jul 2023

📍 Bologna, Italy

- I took part as an instructor in CyberChallenge.IT, a talent development program aimed at cultivating skills in the field of Cybersecurity.
- I focused on network security, covering the fundamentals of networks, protocols, and the vulnerabilities related to them.
- I introduced tools such as Wireshark and IDS (Intrusion Detection System) like Suricata, showcasing their use for intrusion detection.
- I provided an introduction to Docker and its basic usage, including practical examples.
- I covered client-side web security, specifically addressing attacks such as XSS (Cross-Site Scripting), CSRF (Cross-Site Request Forgery), and the challenges related to CORS (Cross-Origin Resource Sharing).
- I also discussed countermeasures, such as implementing CSRF tokens and utilizing a Web Application Firewall (WAF)

Teaching assistant

Fondazione Alma Mater

📅 Nov 2022 – Jul 2023

📍 Bologna, Italy

- Teaching assistant at the first-level Professional Master's Programmes in Cybersecurity: from design to operations

Teaching assistant

Alma Mater Studiorum - University of Bologna

📅 Feb 2022 – Sep 2022

📍 Bologna, Italy

- Teaching assistant at "Fundamentals of Computer Science T-1 (L-Z)" course of BSc degree of Management Engineering

CyberChallenge.IT 2022 Tutor

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UlisseLab

Alma Mater Studiorum - University of Bologna

📅 Oct 2018 – Present

📍 Bologna, Italy

- Leader of the cybersecurity team at the University of Bologna.
- Planning and implementation of projects, seminars, and participation to CTF (Capture The Flag) competitions centered around domains like web security, binary analysis, cryptography, network security, and infrastructure security.

Teaching assistant

Teaching assistant

📅 Oct 2018 – Nov 2019

📍 Bologna, Italy

- Coding Girls Initiative is a program dedicated to empowering and inspiring girls to pursue careers in coding and technology.

EDUCATION

Master Degree in Computer Engineering

Alma Mater Studiorum - University of Bologna

📅 2021 – Present

📍 Bologna, Italy

Bachelor Degree in Computer Engineering

Alma Mater Studiorum - University of Bologna

📅 2017 – 2021

📍 Bologna, Italy

Thesis Title: Password Similarity detection using Deep Neural Networks

Final mark: 100/110

Copernico Scientific High School

Liceo Scientifico Niccolò Copernico

📅 2012 – 2017

📍 Bologna, Italy

PROJECTS

Pack-A-Punch: Moddy

Alma Mater Studiorum - University of Bologna

📅 Oct 2022 – Present

- For charities that want to save on shipping and avoid waste, Moddy is the modular box that brings new object to life, thanks to its design, eco materials, and smart components. This project was selected as one of the best 30 entrepreneurial ideas which will participate in the StartUp Day 2023.
- **Project Link:** <https://linktr.ee/mymoddy>

Waste Service

Alma Mater Studiorum - University of Bologna

📅 Aug 2022 – Apr 2023

- Implementation of a distributed software system on heterogeneous nodes, for a differentiated waste disposal and storage service.
- **Project Link:** <https://github.com/iss2022-BCR/WasteService>

IoT traffic malware detection using Machine Learning models

Alma Mater Studiorum - University of Bologna

📅 Nov 2022 – Feb 2023

- In this project, I studied the effectiveness of using machine learning models for detecting malware in Internet of Things (IoT) devices.
 - I trained and tested random forest and support vector machines (SVMs) models on the IoT23 dataset, which consists of 23 captures of IoT network traffic containing both benign and malicious traffic.
 - The results of my experiments show that the proposed machine learning models are effective at detecting malware in IoT devices, with the random forest model achieving the highest performance in terms of accuracy and F1 score.
 - Overall, my findings suggest that machine learning can be a promising approach for detecting malware in IoT devices, however some risks related to model and issues with data labelling should be considered as well.
 - **Used Technologies:** Python, Jupyter Notebook.
 - **Project Link:** <https://github.com/TryKatChup/ML-IOT-malware-analysis>
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Poké-Pi-Dex

Alma Mater Studiorum - University of Bologna

📅 Jul 2021 – Dec 2021

- We built a physical Pokédex which automatically recognizes Pokémon from plush toys, playing cards, and anime captures, through the use of a convolutional neural network (CNN).
 - **Used Technologies:** Raspberry Pi4, Python, Jupyter Notebook.
 - **Project Link:** <https://github.com/TryKatChup/Poke-Pi-Dex>
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Password Similarity detection using Deep Neural Networks

Alma Mater Studiorum - University of Bologna

📅 Dec 2020 – Mar 2021

- Nowadays people tend to create more profiles or change password of their current profiles for security reasons. Existent passwords and literature-based words have a great impact on the candidate password. This could be a risk for the user privacy.
 - The purpose of this project is to give a feedback about password similarity between the new password and the old one using Deep Neural Networks. As a reference, a Scientific Article published at IEEE Symposium on Security and Privacy 2019 was chosen.
 - The entire architecture was reimplemented and improved, and a comparison between the obtained results and the case study was made.
 - **Used Technologies:** Python, Jupyter Notebook, Bash.
 - **Project Link:** <https://github.com/TryKatChup/password-similarity-nlp>
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AWARDS AND RECOGNITION



Digital Ambassador

Nomination for girls who stood out for their skills, passion and leadership characteristics during CyberChallenge competition. Digital Ambassadors will play a central role in promoting activities and meetings on the world of cybersecurity, encouraging greater participation by anyone with a desire to test their talent, in an inclusive and meritocratic community.

Link: https://www.repubblica.it/tecnologia/2021/07/09/news/cyberchallenge_it_ecco_il_podio_degli_hacker_etici_italiani-309663283/



Second place in CyberChallenge.IT local competition

Second classified (same score as first classified) in local cybersecurity competition at the University of Bologna. I was selected to be part of University of Bologna team in the national final competition.

Link: <https://magazine.unibo.it/archivio/2021/08/06/formazione-per-la-sicurezza-informatica-12019alma-mater-partecipa-a-cyberchallenge.it>



First Place in ShaktiCTF

Me and Alesja Delja teamed up and participated in a women-only cybersecurity competition, organized by Shakti team of Amrita University (India). Covered topics included forensic security, web security, binary analysis, cryptography. Our first competition ended with a first place in the world.

Link: <https://magazine.unibo.it/archivio/2021/08/06/formazione-per-la-sicurezza-informatica-12019alma-mater-partecipa-a-cyberchallenge.it>



First place in Nullcon

On April 8th and 9th, 2022, along with Ulisse team, we won a cybersecurity-themed competition.

Link: <https://ctftime.org/event/1594/>



Black belt in Karate

In 2013, I achieved the black belt in karate.

CERTIFICATIONS

CCNA 1 - Introduction to Networks

Cisco

📅 May 2023 – Present

Safety Specific Training - Module 1

Alma Mater Studiorum - University of Bologna

📅 May 2023

Safety Specific Training - Module 2

Alma Mater Studiorum - University of Bologna

📅 Mar 2023

Fundamentals of Digital Marketing

Google

📅 Aug 2022

Advanced Infrastructure Hacking

NotSoSecure Training part of Claranet Cyber Security

📅 Oct 2021

IELTS Certificate, Score 6.5

British Council

📅 Oct 2020

First Certificate in English

Cambridge University Press & Assessment English

📅 Jun 2016

MAIN STRENGTHS

Leadership

Teamwork

Perseverance

Determination

Curiosity

Creativity

LANGUAGES

- Italian
- English
- Roumanian
- French



COMPETENCES

OS:   

- Java
- C/C++
- Python
- LaTeX
- Docker
- Wireshark
- Bash
- Raspberry Pi
- Microsoft Office Suite
- Git
- Android
- C#
- Go
- HTML
- CSS
- Kotlin
- MATLAB/Simulink
- SQL
- Suricata
- Prolog

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