

# Mattia Nicolella

COMPUTER SCIENCE STUDENT · BOSTON UNIVERSITY

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*I'm a tech enthusiast who loves to test their skills, especially when working in a team. I'm a curious person and a thinker, I like to "hack" things to make them work better or simply to understand how they work; I like outdoor activities, I was a scout and my interest aren't only focused on tech and computers, I'm also interested in hiking, camping, photography and reading.*

## Skills

**Programming** C, Python, JAVA, Ruby, SQL, ASM AT&T/x86, Scala, OpenCL,  $\LaTeX$ , Verilog/SystemVerilog  
**Languages** Italian (mother tongue), English (Independent User)

## Experience



### CyberChallenge.IT

Rome, Italy

LA SAPIENZA UNIVERSITY OF ROME

March 2017 - June 2017

CyberChallenge.IT is a training program for young talents, being the main Italian initiative aiming at identifying, attracting, recruiting and placing the next generation of IT security professionals.

The 2017 edition was the pilot program which had taken place only in Rome for a selected group of students;

The activities were mostly:

Practical introduction to penetration testing;

Practical introduction to malware analysis;

Seminars with Cisco and IBM security experts;

A final challenge, composed of a team penetration testing challenge and an individual malware analysis challenge.



### Internship

Montesilvano, Italy

HiTRUST S.R.L.

Aug. 2015

The internship was sponsored by I.I.S. "Luigi di Savoia", and consisted in developing a webcrawler in java during a two weeks period.

## Education



### Ph.D. in Computer Science

Boston, MA 02215

BOSTON UNIVERSITY

Sept. 2021 - present

Supervisor: Prof. Renato Mancuso

Topic: Embedded systems, Real-time systems



### Master Degree in Engineering in Computer Science (LM-32)

Rome, Italy

LA SAPIENZA UNIVERSITY OF ROME

Sept. 2018 - Jan. 2021

**120 credits in two years. Final Mark: 110/110 with honors, GPA: 28.3/30**

The degree mixes topics from engineering, computer science, machine learning, cybersecurity and data science to give the student a vision on how computer science is evolving and which are the new problems that are being addressed. As in the bachelor degree, many of the exams require to present a project which addresses an issue using the tools presented during the lessons. The thesis that concluded the degree covers comparison and tuning of different simulation engines and different configuration of the simulation model for simulating an edge computing infrastructure. Code available at: <https://github.com/ThesisOrganization/rootsim-models>.

Main Topics: •System and Enterprise Security •Advanced Operating Systems and Virtualization •Capacity Planning •Data Management •Machine Learning •Internet of Things •Neural Networks •Distributed Systems and Computer and Network Security •Big Data Computing



## Honors Programme in Engineering in Computer Science

Rome, Italy

LA SAPIENZA UNIVERSITY OF ROME

July 2020 - Dec. 2020

**Development of a support to make I/O operations reversible in a Parallel Discrete Event Simulator. Final mark: Qualified.**

A student honors program activated for a limited number (10) of highly qualified students that are registered to this master course. Upon selection, students in this program will be assigned to a tutor and will be involved in additional scientific and educational activities, beyond those being part of the regular course of study. Applications are restricted to students who reach a weighted average grade on exams larger or equal than 27 (out of 30).

Main topics: •Simulation •Concurrent programming



## Collegio Universitario Cavalieri del Lavoro "Lamaro Pozzani"

Rome, Italy

FEDERAZIONE NAZIONALE DEI CAVALIERI DEL LAVORO

Sept. 2015 - July 2020

**Diploma of Business Fundamentals "Gaetano Marzotto", an introduction to the basics of Economics and Law.**

**Final Mark: Very Good.**

An institution which provides a merit-only based scholarship for the duration of the Bachelor and Master degree.

Students must attend two courses of Business Fundamentals: one that covers basic economics and law topics; the other aims covers politics, foreign cultures, economics and demography. Students have also to attend an english course and participate in conferences and meetings with journalists, ambassadors and other important political characters.

The students eligibility is checked at the end of every academic year.



## Bachelor Degree in Ingegneria Informatica e Automatica (L-8)

Rome, Italy

LA SAPIENZA UNIVERSITY OF ROME

Sept. 2015 - Oct. 2018

**180 credits in three years. Final Mark: 110/110 with honors, GPA: 28.6/30.**

The degree mixes topics from engineering, computer science and control systems to give the student a vision on how to apply these concepts on real problems. Indeed, many of the exams require to present a project which addresses an issue using the tools presented during the lessons.

The thesis that concluded the degree was the definition and application of permissions rules in a previously developed FAT-like custom filesystem. Code available at <https://github.com/Nick1296/SimpleFS>.

Main Topics: •Control Systems •Operating Systems •Computer Architectures •Databases



## Industrial and Technical Institute Diploma

Via G. D'Aragona 21 - 66100 Chieti, Italy

I.I.S. "LUIGI DI SAVOIA"

Sept. 2010 - June 2015

**Final Mark: 100/100**

## Academic Contributions

### PUBLICATIONS

- [1] **M. Nicoletta**, S. Roozkhosh, D. Hoornaert, A. Bastoni, and R. Mancuso. **2021**. "RT-Bench: An Extensible Benchmark Framework for the Analysis and Management of Real-Time Applications". In: *Proceedings of the 30th International Conference on Real-Time Networks and Systems*. RTNS 2022. Association for Computing Machinery. URL: <https://doi.org/10.1145/3534879.3534888>.

### Other Contributions

2024	<b>Shadow TCP member</b> , Real-Time and Embedded Technology and Applications Symposium (RTAS)	<i>Boston, USA</i>
2023	<b>Artifact Evaluation CP member</b> , Real-Time and Embedded Technology and Applications Symposium (RTAS)	<i>Boston, USA</i>
2023	<b>Shadow TCP member</b> , Euromicro Conference on Real-Time Systems (ECRTS)	<i>Boston, USA</i>
2022	<b>Demo Presentation</b> , Know your Enemy: Benchmarking and Experimenting with Insight as a Goal at Euromicro Conference on Real-Time Systems (ECRTS)	<i>Houston, USA</i>
2022	<b>Teaching assistant</b> , Fundamentals of Computing Systems	<i>Boston, USA</i>
2022	<b>Shadow TCP member</b> , Euromicro Conference on Real-Time Systems (ECRTS)	<i>Boston, USA</i>
2022	<b>Shadow TCP member</b> , Design, Automation and Test in Europe Conference (DATE)	<i>Boston, USA</i>

## Awards

2020	<b>Mention</b> , Honors programme in Engineering in Computer Science	<i>Rome, Italy</i>
2015-2020	<b>Scholarship</b> , Collegio Universitario "Lamaro Pozzani", eligibility is checked every academic year.	<i>Rome, Italy</i>
2017	<b>2nd Place</b> , CyberChallenge.it Pentest Team Award	<i>Rome, Italy</i>

## Certifications

2020	<b>TOEFL iBT</b> , Total: 103, Reading: 29, Listening: 29, Speaking: 21, Writing: 24, Test id: 2516312213423776.	<i>Rome, Italy</i>
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