

RUSO ANTONIO

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EDUCATION

University of Modena and Reggio Emilia

Master's Degree in Computer Science - specialization in cybersecurity

Modena

Present

University of Modena and Reggio Emilia

Bachelor's Degree in Computer Science - 101/110

Modena

Apr 2023

WORK EXPERIENCE

CyberChalleng

National Finalist

Modena

Jan 2025 - Jul 2025

- Participated in an advanced cybersecurity training program and national CTF competition, gaining hands-on experience in ethical hacking, cryptography, web security, and reverse engineering.
- After winning a competitive selection process, I placed among the top 6 national finalists for the University of Modena and Reggio Emilia.
- With the team from Modena, we were ranked among the top 15 teams nationally.

ITIS Leonardo Da Vinci

High School Teacher

Modena

Jan 2025 - Jun 2025

- Substitute teacher for IT design technologies
- Taught two classes of 22 students each, covering programming, software development, and IT design

Hipert Lab

team f1tenth, Software Developer

Modena

Apr 2023 - Present

- Designed and implemented an obstacle detection based on 2D Lidar using the ICP (Iterative Closest Point) method
- Implemented the Opponent Estimation component by adding a Kalman filter-based tracker to the object detection system
- Participated in the 15th F1TENTH competition at ICRA 2024, testing software against international teams.
- Technologies: C / C++, Python, CUDA, openmp, and ROS2 for communication with the rest of the autonomous driving stack used in the lab

Hipert Lab

Researcher, Software Developer

Modena

Sept 2022 - Apr 2023

- My role was to parallelize on GPU the knn search on an octree with CUDA.
- The data structure was tested on the FAST-LIO SLAM framework using the CARLA simulator
- Achieved a 2× speed-up over the original structure.
- Technologies: C++, CUDA, and ROS2

Ragazze Digitali

Teacher

Modena

Jul 2022 - Jul 2022

- Led workshops in the 'Ragazze Digitali' project, guiding participants to create five unique video games and inspiring girls in STEM.

PUBLICATIONS

Thundershot: an open-source autonomous vehicles research platform for embedded heterogeneous MPSoCs

- **Co-author**, Research on FPGA-based Autonomous Driving Platform. Presented a hardware/software platform using AMD KR260, with ROS2 stack and accelerated 2D LiDAR (2.64× speed-up).
- DOI: 10.1145/3706594.3726968

SKILLS

- **Languages:** C, C++, CUDA, Python, Rust, Java
- **Technologies:** Linux, Git, ROS2
- **Cybersecurity:** CTF player, pwn, reverse