ALESSIO IZZILLO

Ph.D. student in *Engineering in Computer Science*

ABOUT ME

I'm a Ph.D. student in *Engineering in Computer Science* at University of Rome *La Sapienza*. I like to face new challenges and work with new technologies. In particular, I'm very interested in several aspects of cybersecurity such as malware analysis, network security, penetration and software testing.

ACADEMIC EXPERIENCES

CyberChallenge

📅 Mar 2019 – May 2019 📍 University of Rome *La Sapienza*

- Cybersecurity seminars
- Training on CTF challenges

B.Sc. Courses Tutoring

- **Sistemi di Calcolo II**
  📅 Sep 2022 – Dec 2022 📍 University of Rome *La Sapienza*

M.Sc. Thesis Tutoring

- **Image-based Representation of Binaries for APT Malware Detection**
  Candidate: Chiara Tuninetti
  📅 Nov 2021 – Jan 2022 📍 University of Rome *La Sapienza*

- **IoT-AFL: an Enhanced Fuzzing Framework for Embedded Software**
  Candidate: Daniele Cantisani
  📅 Jan 2021 – Jul 2022 📍 University of Rome *La Sapienza*

M.Sc. Thesis Co-Advisor

- **IoT-AFL: an Enhanced Fuzzing Framework for Embedded Software**
  Candidate: Daniele Cantisani
  📅 22 Jul 2022 📍 University of Rome *La Sapienza*

Student Volunteer

- **EuroVis 2022 – 24th EG/VGTC Conference on Visualization**
  📅 13 Jun 2022 – 17 Jun 2022 📍 Angelicum Conference Center (Rome, Italy)

WORK EXPERIENCES

Occasional collaboration within the "Self-Attentive Function Embeddings (SAFE) for Embedded Systems" project

Consorzio Interuniversitario Nazionale per l'Informatica (CINI)

📅 Mar 2021 – Apr 2021　　　📍 Rome, Italy

- Development of documentation about architectures and firmware reversing techniques used in embedded systems.

EDUCATION & CERTIFICATIONS

Ph.D. in *Engineering in Computer Science*

University of Rome *La Sapienza*

📅 Nov 2021 – Now

Italian Professional Engineer's license in *Information Technology Engineering* (Section A)

University of Rome *La Sapienza*

📅 Jul 2021

M.Sc. in *Engineering in Computer Science*
(Thesis: *Graph and Flow-based Distributed Detection and Mitigation of Botnet Attacks*)

University of Rome *La Sapienza*

📅 Nov 2018 – Jan 2021

B.Sc. in *Computer Science and Automatic Engineering*

University of Rome *La Sapienza*

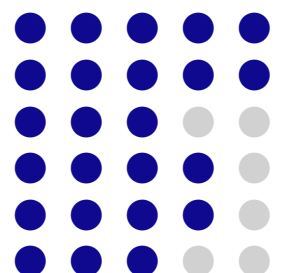📅 Sept 2015 – Oct 2018

PROGRAMMING & COMPUTER SKILLS

C　　　　　　　●●●●●
Python　　　　 ●●●●●
Java　　　　　 ●●●○○
Assembly x86　●●●●○
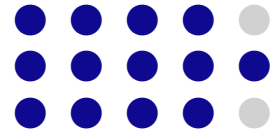**SQL**　　　　　　●●●●○
Scala　　　　　●●●○○

Amazon Elastic Compute Cloud
Linux
Windows

LANGUAGES

Italian
English

TECHNICAL SKILLS

Binary Analysis   Reverse Engineering   Machine Learning   Network Security

PROJECTS

AntiBotnet
(for the *M.Sc. Thesis*)

A Linux tool for detecting and mitigating Botnet attacks.

Thread synchronization and messaging subsystem
(for the *Advanced Operating System and Virtualization* course)

A loadable module implementing a subsystem for the Linux kernel which allows threads from (different) processes to exchange units of information (aka messages) and synchronize with each other.

TripPlanner
(for the *Mobile Applications and Cloud Computing* course)

Android app that helps you find and manage flights. You can choose fixed days or a window of time and it will find the cheapest price combination. You can buy tickets, save flights and check the weather at the destination.

BadNets
(for the *Neural Networks* course)

Keras reimplementation of the research *BadNets* to identify vulnerabilities in the neural network used for image recognition.

IoT-AFL
(Ph.D. project)

A framework for fuzz testing firmware of IoT devices.

SOFT SKILLS

Teamwork Problem solving Adaptability Creativity Attention to detail
Time management

INTERESTS

I'm a sport enthusiast: I have practiced competitive swimming for 2 years and competitive judo for 5 years.