SIMONE MAGNANI

PhD Student

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EXPERIENCE

Software Developer (Internship)

Yoroy S.R.L.

Oct 2017 - Dec 2017 | s41m0n/PassiveInformationGatherer

Developed a Passive Information Gatherer System in NodeJS aiming at:

- gathering and parsing Suricata security logs;
- periodically querying online databases to check for malicious IPs;
- offering employees a useful command line interface to ease IP history lookup during their analysis.

PROJECTS

Toshi (Total System Shield)

EiT Digital

1 year | s41m0n/eBPF_TrafficAnalyzer

High-performance, automated and adaptive defensive shield against cyber-attacks, exploiting:

- kernel-based technologies (eBPF/XDP) that are (self-) adaptive configured to monitor and counteract security threats;
- AI/ML techniques to analyse events, detect and mitigate anomalies on the host machines.

Partners:

- Politecnico di Torino (Netgroup)
- Fondazione Bruno Kessler
- Universidad Politécnica de Madrid
- RedBorder team
- Telefónica S.A.

Polycube

Netgroup - Computer Networks Group at Politecnico di Torino

2 years - ongoing | polycube-network/polycube

Open source software framework that provides fast and lightweight network functions such as bridges, routers, firewalls, and others. Polycube services, called cubes, can be composed to build arbitrary service chains and provide custom network connectivity to namespaces, containers, virtual machines, and physical hosts. The main contribution is the realization of the service Dynmon, a dynamic network monitor, and a NetFlow-like program version to be used within the service. s41m0n/polycube_netflow

CrownLabs

Netgroup - Computer Networks Group at Politecnico di Torino

4 months - ongoing | netgroup-polito/CrownLabs

MY LIFE PHILOSOPHY

"The only limit is the one you set yourself. Keep pushing and challenging yourself, never settle."

MOST PROUD OF

Contribution to iovisor/bcc
BCC is a toolkit for creating efficient kernel tracing and manipulation programs, using eBPF.

TOSHI (Total System Shield)
European project I managed for my M.Sc. thesis funded by EiT Digital

All projects led by Netgroup
Netgroup (Computer Networks Group at Politecnico di Torino) and in particular prof. Fulvio Risso and its Postdoc. students have always challenged me with new stimulating research projects.

STRENGTHS

Hard-working | Eye for detail | Motivator & Leader | Organized & rational | Always meet the deadlines

C | C++ | Java | Python | Bash scripting | Spring | Angular | React | Html | PHP | NodeJS | JS | Cybersecurity | Linux kernel | eBPF

LANGUAGES

Italian — Mother tongue ●●●●●

English — Ielts: 7.0 overall (C1) ●●●●○

Open source project born to address the in-place laboratory prohibition due to Covid-19. CrownLabs is a set of services that can deliver remote computing labs through a per-user virtual machine. Instructors can provision a set of virtual machines, properly equipped with the software required for a given lab (e.g., compilers, simulation software, etc).

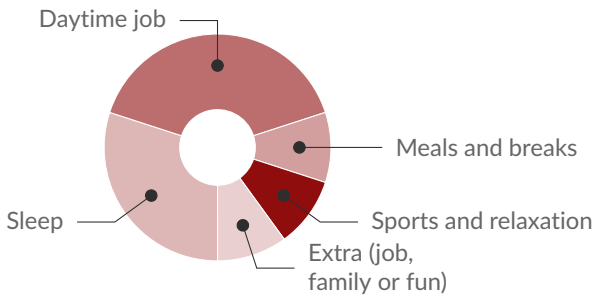
Kubernetes on Desktop

Netgroup - Computer Networks Group at Politecnico di Torino

5 months netgroup-polito/KubernetesOnDesktop

Open source project aiming at developing a cloud infrastructure to run user application in a remote cluster. The idea behind this project is to exploit the latest technologies like Kubernetes to move application's computational resources to a remote cluster, letting the end user's device connecting to the service using a graphical desktop-sharing application. As a result, even those devices with low (and old) specifics can run the newest heavy applications, since the computational power required by a desktop-sharing application is lower than an entire application running locally (like Firefox).

A DAY OF MY LIFE



STUDENT TEAMS

Since my B.Sc. I have been interested in cybersecurity and, fortunately, I have been a member of the following teams:

- CeSeNA (https://cesena.github.io)
- pwnthem0le (https://pwnthemole.github.io)

With the CeSeNA team, I aimed to study, understand and deepen Software Security, both in Network and Application side and compete with universities all over the world in CTF competitions. The team inspired me to start thinking differently and approaching everyday challenge with new perspectives.
I mainly dedicate myself on web exploitation, but I also had the opportunity to do some reverse engineering and forensics challenges. Moreover, we participated in a 2 hours conference at Università di Bologna, where we presented some vulnerabilities. (https://www.facebook.com/events/2001297396760918) My major contribution, is the creation of two tools for IDS/IPS to be used during CTF Attack/Defense competitions.

s41m0n/idcas s41m0n/ipcas

FUTURE PLANS

I would like to brilliantly attain the PhD, by keep digging computer networking and cybersecurity topics. Moreover, during this 3-years period I would also like to get in touch with important companies, research groups and spend some time abroad in order to know new realities and broaden my knowledge.

EDUCATION

PhD in Cybersecurity and Reliable Artificial Intelligence

Fondazione Bruno Kessler - Università di Genova

Nov 2020 – ongoing

M.Sc. in Computer Engineering (110L/110)

Politecnico di Torino

Oct 2018 – Oct 2020

Thesis title: Opportunistic Traffic Monitoring with eBPF

B.Sc. in Computer Science and Engineering (110/110)

Università di Bologna

Sept 2015 – Oct 2018

Thesis title: Analisi delle Prestazioni del Linux Kernel Runtime Guardian

High school Diploma (83/100)

Liceo A.Righi Cesena

Sept 2000 – July 2015

Thesis title: The Wolf of Wall Street

REFEREES

Prof. Fulvio Risso
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