Marco Urbano

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Education

Università degli Studi di Napoli Federico II — Napoli, IT
*Master of Science in Computer Science, Information Security – **110/110 cum Laude*** — *Oct. 2017 – May 2021*
Dissertation: *"Leveraging AI to automate web penetration testing: a tool for generating a dataset"*

Università degli Studi di Napoli Federico II — Napoli, IT
*Bachelor of Science in Computer Science – **103/110*** — *Sep. 2013 – Oct. 2017*
Dissertation: *"Re-engineering a controller synthesis tool."*

Istituto Tecnico Industriale Statale Francesco Giordani — Napoli, IT
*Senior High School Degree, Information Technology – **96/100*** — *Sep. 2008 – June 2013*

Awards

Accademia Aeronautica di Pozzuoli — Pozzuoli, IT
Winner of the first CTF organized by CIOC (Comando Interforze per le Operazioni Cibernetiche) — *Nov. 2019*
https://www.difesa.it/SMD_/Eventi/Pagine/Cyber_security_a_Pozzuoli_evento_formativo_HackAdemy.aspx

Training and certifications

Accenture CyberHackademy — Napoli, IT
Intensive class about Information, Network and IoT Security. Awarded with a scholarship. — *Mar. 2020 - Oct. 2020*

ITIS Francesco Giordani — Napoli, IT
Cisco Networking Academy – CCNA Discovery: Networking for Home and Small Business. — *May 2013*

Ardmore Language Schools Ltd — Maidenhead, UK
B2/C1 English Certificate — *Sep. 2012*

Work Experience

Service Engineer / Penetration Tester — Aug. 2022 – currently
Ericsson Telecomunicazioni SpA — *Pagani, IT*

- I'm part of the **Cybersecurity Red Team** in Ericsson Pagani R&D.

Software Engineer — Oct. 2021 – Aug. 2022
Ericsson Telecomunicazioni SpA — *Pagani, IT*

- Introducing new features to Ericsson products in order to reach the **State of The Art in 5G technology**.
- **Code refactoring** to improve existing codebase in terms of readability, reusability and complexity (time/space).
- Contributing to the **trasformation of the code from monolithic to microservices (Docker)**.
- Performing VA/PT to ensure **Product Security** before GA.
- Adopting **Secure Coding** in order to ensure "Defence in Depth". (C, C++, Java, Python, bash)
- Performing **Risk Assessment** and **Privacy Impact Assessment** in order to ensure that new features do not introduce unacceptable risks and that they are compliant to Ericsson security and privacy standards. **(STRIDE)**
- Using **AGILE methodology** within a team of eight members

Penetration Tester — Feb. 2021 – Sep. 2021
CybHorus srl — *Napoli, IT*

- **Red Teaming**: performing VA/PT, both Infrastructural and Web Application Based, to ensure that the most of the vulnerabilities are discovered.
- **Blue Teaming**: apply remediations to discovered vulnerabilities in order to reduce the attack surface; performing the installation of SIEMs/IDSs/IDPSs to monitor company networks (medium/large ones). Incident response.
- **Security Evangelist:** giving security lessons to employees in order to raise security risks awareness.

Hard Skills

Programming languages: C, C++, Java, Python, MATLAB, Intel 8086 Assembly, PL/SQL, PHP, Javascript, SED, AWK, Bash.
Databases and query languages: SQL, NoSQL, Oracle, PostgreSQL, PostGIS, Spatial Databases, OLAP, Datawarehousing, ETL algorithms.
Software Engineering: UML, OOAD, Version Control, Project Management.
Cloud computing: Docker.
Programming tools: GDB, GNU Make.
Cybersecurity: Nmap, Wireshark, Burpsuite, ZAP, Metasploit, Penetration Testing knowledge by CTF's, Criptography (symmetric/asymmetric, DES, 3DES, Diffie-Hellman, AES, TSL/SSL, SSH, Kerberos), Access Control Polocies (Chinese Walls, MAC, DAC, RBAC, HRU), Firewall Evasion Techniques, Anonimization Techniques (Proxychains, TOR, Spoofing), Incident Response, HIDS & NIDS installation and maintenance.

Languages

Italian: Native speaker
English: Fluent

Selected Projects

"Web Application Penetration Testing Dataset Collector" July 2020 – May 2021

- A tool for generating a dataset containing Web Penetration Testing episodes.
- **Technologies used:** Docker, Python, Selenium, MITMProxy.

"Denoising autoencoder for the reconstruction of noisy images." Apr. 2020 – June 2020

- A tool to perform the denoising of images based on a feed-forward neural network.
- **Technologies used:** MATLAB, MNIST Dataset.

"ShodanGuru" Dec. 2019 – Feb. 2020

- A tool to automatize search on the famous Shodan.io search engine.
- **Technologies used:** Python, ShodanAPI.

"Design and Implementation of a Datawarehouse containing city traffic data." Oct. 2018 – Dec. 2018

- The Datawarehouse was realised starting from data captured by GPS installed on taxis in the city of San Francisco: these data was then refined using ad-hoc ETL procedures.
- **Technologies used:** PL/PGSQL.

"Feed-forward neural network to perform handwritten character recognition" Apr.2018 – June 2018

- **Technologies used:** Python, TensorFlow, MNIST Dataset.

"NYCS: Naples hYbrid Controller Syntesis" Apr. 2017 – Dec. 2017

- *NYCS* is a tool for solving the controllability problem for Linear Hybrid Games (LHGs) with safety and reachability goals. My role was to re-engine the old tool, named Space-Ex+, implemented with C Language, that was about 100K lines of code and was not designed following the object-oriented paradigm.
- **Technologies used:** C++, GDB.
- **Project webage:** http://wpage.unina.it/m.faella/nycs/

"SFMobility" Nov 2016 – May 2017

- A web application to find real time information about parking availability and city traffic of San Francisco.
- **Technologies used:** Java, Javascript, PostgreSQL, HTML, CSS.