

# Marco Urbano

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## EDUCATION

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### 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

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### 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](https://www.difesa.it/SMD-/Eventi/Pagine/Cyber_security_a.Pozzuoli_evento_formativo_HackAdemy.aspx)

## TRAINING AND CERTIFICATIONS

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### 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

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### Software Engineer

Oct. 2021 – currently

*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

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**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.

**Other technologies and tools:** Docker, GDB, GNU MAKE.

**Cybersecurity:** Nmap, Wireshark, Burpsuite, ZAP, Metasploit, Penetration Testing knowledge by CTF's, Cryptography (symmetric/asymmetric, DES, 3DES, Diffie-Hellman, AES, TSL/SSL, SSH, Kerberos), Access Control Policies (Chinese Walls, MAC, DAC, RBAC, HRU), Firewall Evasion Techniques, Anonimization Techniques (Proxychains, TOR, Spoofing), Incident Response, HIDS & NIDS installation and maintenance.

## LANGUAGES

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**Italian:** Native speaker

**English:** Fluent

## SELECTED PROJECTS

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| <b>"Web Application Penetration Testing Dataset Collector"</b>   | July 2020 – May 2021  |
| <ul style="list-style-type: none"><li>• A tool for generating a dataset containing Web Penetration Testing episodes.</li><li>• <b>Technologies used:</b> Docker, Python, Selenium, MITMProxy.</li></ul>  |                       |
| <b>"Denoising autoencoder for the reconstruction of noisy images."</b>   | Apr. 2020 – June 2020 |
| <ul style="list-style-type: none"><li>• A tool to perform the denoising of images based on a feed-forward neural network.</li><li>• <b>Technologies used:</b> MATLAB, MNIST Dataset.</li></ul>   |                       |
| <b>"ShodanGuru"</b>  | Dec. 2019 – Feb. 2020 |
| <ul style="list-style-type: none"><li>• A tool to automatize search on the famous Shodan.io search engine.</li><li>• <b>Technologies used:</b> Python, ShodanAPI.</li></ul>  |                       |
| <b>"Design and Implementation of a Datawarehouse containing city traffic data."</b>  | Oct. 2018 – Dec. 2018 |
| <ul style="list-style-type: none"><li>• 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.</li><li>• <b>Technologies used:</b> PL/PGSQL.</li></ul>  |                       |
| <b>"Feed-forward neural network to perform handwritten character recognition"</b>  | Apr.2018 – June 2018  |
| <ul style="list-style-type: none"><li>• <b>Technologies used:</b> Python, TensorFlow, MNIST Dataset.</li></ul>   |                       |
| <b>"NYCS: Naples hYbrid Controller Syntesis"</b>   | Apr. 2017 – Dec. 2017 |
| <ul style="list-style-type: none"><li>• <i>NYCS</i> 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.</li><li>• <b>Technologies used:</b> C++, GDB.</li><li>• <b>Project webpage:</b> <a href="http://wpage.unina.it/m.faella/nycs/">http://wpage.unina.it/m.faella/nycs/</a></li></ul> |                       |
| <b>"SFMobility"</b>  | Nov 2016 – May 2017   |
| <ul style="list-style-type: none"><li>• A web application to find real time information about parking availability and city traffic of San Francisco.</li><li>• <b>Technologies used:</b> Java, Javascript, PostgreSQL, HTML, CSS.</li></ul>   |                       |