Marco De Benedictis

Turin IT / https://www.linkedin.com/in/marcoxdebenedictis / https://github.com/mrcdb

Cloud Native Security Engineer - ControlPlane. London, UK 05/2022 - ongoing
Threat modelling cloud native infrastructures, securing Kubernetes infrastructures, build security in by default. (Kubernetes, GCP, AWS, Azure, CI/CD pipelines, IaC)

Security Engineer - 7Layers. Turin, IT 02/20 - 05/2022
Research & Development of cyber-security solutions that both leverage proprietary technologies and custom-built tools for the detection of security incidents and their remediation in heterogeneous target infrastructures. Focus on cloud infrastructures and cloud-native technologies, highly interested in Kubernetes and container security. Technical proficiency on advanced endpoint detection & response. I work with log management & aggregation and security automation tools. Field experience on technical formation, security awareness solutions and processes. Customer-facing role as delivery engineer for some of the cyber-security solutions of the company. (Kubernetes, Rancher, Longhorn, Graylog, Splunk, ELK, Linux sysadmin, CI / CD pipelines, Prisma Cloud, XSOAR, FireEye Helix, Okta Identity Engine)

Avionics System Engineer - Leonardo Aircraft Division. Turin, IT 12/19 - 01/20
Contributed on the development and integration of avionic subsystems within the fighter simulators of Leonardo Ground Based Training Systems at Leonardo Aircraft Division. (C, C++, ADA)

Security Researcher - Polytechnic University of Turin. Turin, IT 2/16 -11/19
Designed and developed a trust architecture tailored for a lightweight cloud environment and integrated in a Network Functions Virtualization platform. Designed and developed a run-time remote attestation technology for containers. Built a multi-container design for a virtual network function with mandatory access control policies to secure inter-container communication and shared data volumes. Contributed to the design and architecture of the NFV platform defined within the SHIELD Horizon 2020 project. Authored 9 papers in the field of cybersecurity that were presented in international conferences (IEEE) and published in peer-reviewed scientific journals. (Python, C, Linux kernel, TPM, Bash, Django, Docker, IMA, Apache Cassandra, Netfilter, SELinux)

Member of FICEP Technical Staff - Polytechnic University of Turin. Turin, IT 2/16 - 11/19
Designed and built a container-based infrastructure to deploy the eIDAS national gateway for electronic identity. Developed a library to map the eIDAS authentication protocol with the Italian notified eID scheme, SPID. Maintained the eIDAS national gateway for cross-border authentication in Europe in the scope of the FICEP CEF project, which is in charge of implementing the EU eIDAS regulation at national level in Italy (Java, Maven, Tomcat, NGINX, Struts2, Spring, HPE Helion, SAML, Docker)

Backend Developer - Musico. Independent, IT 6/19 - 10/19
Designed and developed the backend of an innovative music platform based on Artificial Intelligence, featuring user management, client APIs, MIDI management and real-time database storage. Assisted client-side encoding of MIDI data into audio formats and anonymous client authentication via JSON Web Tokens. Implemented the CI/CD pipeline of the platform and its cloud deployment on various Platform-as-a-Service solutions leveraging container technologies. (JavaScript, NodeJS, Express, ToneJS, Google Firebase, Heroku, Google App Engine, Docker, OpenAPI)

Visiting Researcher - Security Lab of Hewlett Packard Enterprise. Bristol, UK 10/18 - 12/18
Designed a novel extension to the Trusted Platform Module 2.0 architecture to support virtualised environments by binding the physical device with one or more virtual TPM instances. Compared to existing literature, this allows for hardware-level security in a virtualised environment, so that cryptographic material can be protected against in-memory attacks performed both at the virtual and physical levels. Includes hardware-protected key management and state preservation across restarts of the virtualised environment. (Linux kernel, TPM, Bash, C, Docker)

Contract Professor - { ITS Piemonte, Polytechnic University of Turin, COREP, PRISMA Impianti SpA }. Independent, IT 3/18 - ongoing
Held courses on cybersecurity featuring authentication architectures, Intrusion Detection and Prevention Systems, application sandboxing and access control in the scope of ICT and ICS infrastructures. Held a course on cloud architectures and technologies. (Docker, LXC, LXD, SELinux, AppArmor, Suricata IDS, FreeRADIUS, Cloud systems)

EDUCATION

Polytechnic University of Turin, IT - Computer and Network Security Group, 2016 - 2020
PhD in Computer and Control Engineering
Polytechnic University of Turin, IT - Emphasis on Networking, 2013-2015
M.S. in Computer Engineering, magna cum laude
Polytechnic University of Turin, IT, 2010-2013
B.S. in Computer Engineering

ACTIVITY & AWARDS

Received a PhD student award 2018 by the Department of Computer and Control Engineering in Polytechnic University of Turin. Received a best demo award at the IEEE NFV-SDN 2017 conference in Berlin, DE for a demonstration featuring the initial prototype of the SHIELD H2020 project platform.

HOBBIES

Authored a DeviantArt channel featuring original digital paintings with 9.5K page views. Music enthusiast and guitar player for many years.