



Ivan Vaccari

Ph.D. in Computer Science,
Computer Engineer

- ▶ Italian
- ▶ Born: 13/07/1991

Skills

Software development



Project management



Python



Azure



Machine learning



Big data/ Data science



Soft skills

Goal-Oriented



Problem Solving



Organization



Team collaboration and coordination



Biography

I have a multidisciplinary background and skillset in computer science and engineering, with a focus on software development, project management, cyber security and technological context such as Internet of Things (IoT), big data and machine learning/artificial intelligence. I obtained a PhD in Computer Science and degree in Computer Engineering from the University of Genoa, and I received an award for my master degree thesis provided by the ABB company focused on digitization in the power generation industry and smart grids. During my research years, I published numerous scientific papers and I acted as a reviewer for many others, and also I was involved in the management of national and international research projects.

After years of research, I decide to move from research to the industrial world. Now, in my current role as a backend developer at RINA spa. I'm responsible for developing serverless backend engines and algorithms using Microsoft Azure services. In addition to this technical responsibilities, I recently started to work as on project manager where I'm responsible for gathering requirements and coordinating technical activities for projects by coordinating the developers team. Overall, I have a strong foundation in computer science and engineering, and I aim to continue to improve my skills and expertise in my professional career.

Work experience

Software Developer

RINA spa

07/2021 - present

Backend developer at the international company RINA spa, a company engaged in multidisciplinary fields including digital innovation. I develop serverless back-end engines and algorithms using the main services offered by Microsoft Azure. Mainly, the backend applications are developed using Python programming language and its integration with Azure services. All applications are developed by combining serverless architectures (Azure Function, Azure App Services, Durable functions etc) and microservices (Docker, container registry and container instances) in order to develop backend applications serving the Business Units of the RINA Group or for external customers. The applications also use different technologies for data storage such as NoSQL (Cosmos, MongoDB), SQL (Azure SQL or postgresql) or time series (InfluxDB and Grafana for visualization). Finally, I also acquired data processing skills stored by applications to perform statistical calculations or analyze data using machine learning and artificial intelligence algorithms (Python or Azure Machine Learning Studio) and Azure Cognitive services for images processing. Recently, I started dealing with project management where I cover the role of requirements gathering and technical validation. In this role, I initially interface with customers to gather requirements, technically discuss them with developers and coordinate technical activities to achieve project goals.

Research fellow

CNR, Institute for Electronics and Information Engineering and Telecommunications

06/2020 - 06/2021

Research fellow at the Genoa Network Security group of the CNR Institute for Electronics and Information Engineering and Telecommunications, for the activities related to "Development of innovative solutions in the cyber-security landscape". Scientific responsible: Dr. Enrico Cambiaso. Selection announcement n. IEIT-001-2020-GE. Supervisor: Maurizio Aiello, Enrico Cambiaso

Languages

English

Fluent (B1)

Italian

Native

Education

10/2017 - 05/2021

Ph.D. in Computer Science

University of Genoa

Internet of Things, cyber-security

Master's thesis: "Security aspects about Internet of Things networks, devices and protocols".

09/2014 - 03/2017

Master's degree in Computer Engineering with laude

University of Genoa

Computer Engineering

Bachelor's thesis: "Study of security aspects on ZigBee networks in Internet of Things".

09/2010 - 09/2014

Bachelor's degree in computer engineering

University of Genoa

Computer Engineering

Interests

- ▶ Technologies
- ▶ DIY
- ▶ Sport - Football
- ▶ Programming
- ▶ Travel
- ▶ Friends

Research fellow

06/2019 - 05/2020

CNR, Institute for Electronics and Information Engineering and Telecommunications

Research fellow at the Genoa Network Security group of the CNR Institute for Electronics and Information Engineering and Telecommunications, for the european project "Integrated Framework for Predictive and Collaborative Security of Financial Infrastructures – FINSEC". Scientific responsible: Dr. Enrico Cambiaso. Selection announcement n. IEIIT-003-2019-GE. Supervisor: Maurizio Aiello, Enrico Cambiaso

Research fellow

06/2017 - 05/2019

CNR, Institute for Electronics and Information Engineering and Telecommunications

Research fellow at the Genoa Network Security group of the CNR Institute for Electronics and Information Engineering and Telecommunications, for the european project "My Health - My Data (MH-MD)". Scientific responsible: Dr. Maurizio Aiello. Selection announcement n. IEIIT-006-2017-GE. Supervisor: Maurizio Aiello, Enrico Cambiaso







Competence acquired

- Working experience with Agile Methodology and Kanban
- Programming languages: Python (pandas, numpy, scikit learn, matplotlib, seaborn, etc), Matlab, C++, C#, Java
- Version control system Git on different platform (Github, Azure DevOps and Gitlab)
- Storage:
 - Databases: SQL (MySQL, MariaDB, Azure SQL), NoSQL (MongoDB or CosmosDB), TimeSeries (Influxdb + Grafana for dashboards) and Elasticsearch-Kibana
 - Blockchain: Fabric, Ethereum and Bitcoin
 - Data backups: physical devices, such as NAS or tape, and cloud systems, like Drive or OneDrive
- Cloud Platform: expert in Azure (with certifications), basic knowledge of Google Cloud Platform and Amazon Web Services.
- In-depth knowledge of Docker container systems and classic virtualization (virtual machines)
- Deep knowledge of Windows, Linux and MacOS. Also, in hardware components (created custom workstation by mounting entire PCs).
- Knowledge of the Vulnerability Assessment and Penetration test processes
- Machine learning, advanced knowledge and algorithm (developed in Python and with Azure Machine Learning Studio)
- Knowledge of network protocols: IEEE 802.11, IEEE 802.15.4, IEEE 802.3, Wi-Fi, ZigBee, HTTP/HTTPS, MQTT, CoAP, AMQP
- Excellent knowledge of Internet of Things (IoT), both in hardware, software and cyber security. Expert in the development of IoT applications using different communication protocols

Certification

In possession of more than 40 certifications relating to software development and the cyber-security aspect. The most relevant are:

Contact

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 Google Scholar

- AZ-204: Developing Solutions for Microsoft Azure on 22/09/2022.
- AI-900: Microsoft Azure AI Fundamentals on 11/02/2022.
- AZ-900: Microsoft Azure Fundamentals on 09/02/2022.
- DP-900: Azure Data Fundamentals on 20/04/2022.
- eLearnSecurity Web Application Penetration Tester (eWAPT) number 6857335, relating to the study of vulnerability assessment and penetration testing activities for web applications.
- eLearnSecurity Junior Penetration Tester (eJPT) number EJPT-200663, related to the study of vulnerability assessment and penetration testing activities.
- Cyber Security and Cyber Security essentials obtained on 29/01/2018 provided by Cisco Networking Academy concerning the exploration of the topic of cyber-security as a specialization in the IT field.
- Autopsy Basics and Hands On released by Basis Technology Training Center on 30/07/2020.
- MATLAB Deep Learning Onramp released by MathWorks on 05/19/2020.

Research summary

During my research period, I obtained these results and collaborations:

- More than 30 papers published on international journals and conferences and 5 books chapters. H-index (10).
- Reviewer for more than 20 papers in international journals and conferences.
- Involved in 4 European projects focused on cyber-security for IoT systems, health data and architectures, financial infrastructures and forensics scene. Also, on 4 national projects focused on machine learning solutions for health data and smart cities.
- Teaching lessons on cyber-security of IoT and programming languages courses in the Computer Science degree at the University of Genoa.

Genoa, 18th January 2023

Ivan Vaccari