

PERSONAL INFORMATION **Andrea Lacava**JOB APPLIED FOR **Tutoring for Telecomunicazioni Course**

WORK EXPERIENCE

April 2020 – June 2020 **Android Developer**Teleskill,
Rome, Italy

Development of an android application named **Balance Care Application** that allows the fall detection of elderly people and Alzheimer's patients from sensory data extracted from their mobile phones. This application also implements a custom interface that allows setting the parameters to be used when capturing data directly within it.

July 2019 – September 2019 **Technical Student**CERN, OpenLab
Geneva (Switzerland)

I was selected as an Openlab Student with a full-time contract for the summer. In this work, I have learned to use StackStorm, an open-source automation platform provided by Extreme Networks, by deploying the platform and investigating its features and, once familiar with the software, I have expanded the current automation pack for the Intrusion Detection System system to support multiple network vendors to enable dynamic modifications to traffic steering rules.

Business or sector European institutionJune 2019 – July 2019 **Research Grant**

Sapienza, University of Rome (Italy)

"Studio di soluzioni implementative di piattaforme wireless per e-Health IoT."

June 2019 – July 2019 **Research Grant**

Sapienza, University of Rome (Italy)

"Studio di soluzioni implementative di piattaforme wireless per e-Health IoT."

June 2019 – July 2019 **Research Grant**

Sapienza, University of Rome (Italy)

"Studio di soluzioni implementative di piattaforme wireless per e-Health IoT."

EDUCATION AND TRAINING

2020–Present **Double PhD Program in Computer Engineering and ICT**

ISCED 8

Northeastern University, Boston (MA), USA & Sapienza, University of Rome, Italy

2018–2020 **Master of Science in Cybersecurity**

Sapienza, University of Rome

– Final grade: 110/110

– Thesis title: "Intrusion Detection System for Bluetooth Mesh Networks: data gathering and experimental evaluations" [1]

2014–2018 **Bachelor of Science in Computer Engineering**

Sapienza, University of Rome

– Final grade: 101/110

PERSONAL SKILLS

Mother tongue Italian

Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Digital competences

SELF-ASSESSMENT				
Information Processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

[Digital competences - Self-assessment grid](#)

- Computer skills
- Protocols and Concepts:
 - O-RAN, 5G networks and wireless technologies, BLE, mesh networking, Network Security
 - Systems:
 - Unix-based systems, Windows
 - Languages:
 - C++, C-UNIX, Python, Assembly(x86), Java, Arduino and IoT development, BASH, NodeJS, Javascript
 - Other software:
 - MySQL, MongoDB, Bootstrap framework, StackStorm, Docker Cisco Packet Tracer, Microsoft Visual Studio, JetBrains's IDEs (PyCharm, IntelliJ IDEA, Webstorm, Android Studio), UNIX system administration.
 - Typesetting:
 - Office, Wordpress, L^AT_EX

Driving licence B

PUBLICATIONS

- [1] **Andrea Lacava**, Emanuele Giacomini, Francesco D'Alterio, and Francesca Cuomo. "Intrusion Detection System for Bluetooth Mesh Networks: data gathering and experimental evaluations". In: *SPT-IoT 2021: The Fifth Workshop on Security, Privacy and Trust in the Internet of Things (SPT-IoT 2021)*. Kassel, Germany, Mar. 2021.
- [2] **Andrea Lacava**, Gianluigi Nero, Pierluigi Locatelli, Francesca Cuomo, and Tommaso Melodia. "Demo Abstract: BE-Mesh: Bluetooth Low Energy Mesh Networking". In: *2019 IEEE INFOCOM Demo (INFOCOM 2019 Demo)*. Paris, France, Apr. 2019.
- [3] Andrea Petroni, **Andrea Lacava**, Pierluigi Locatelli, Gianluigi Nero, Marcello Pediconi, and Francesca Cuomo. "Exploiting Edge Computing for Adaptive Data Update in Internet of Things Networks." In: *Aml (Workshops/Posters)*. 2019, pp. 27–37.
- [4] E. Giacomini, F. D'Alterio, **A. Lacava**, and F. Cuomo. "BLUES: A Self-organizing BLE Mesh-network Paradigm for IoT Environments". In: *2020 IEEE 21st International Symposium on "A World of Wireless, Mobile and Multimedia Networks" (WoWMoM)*. Aug. 2020, pp. 409–414.
- [5] **Andrea Lacava**, Valerio Zottola, Alessio Bonaldo, Francesca Cuomo, and Stefano Basagni. "Securing Bluetooth Low Energy networking: An overview of security procedures and threats". In: *Computer Networks* 211 (2022), p. 108953. URL: <https://www.sciencedirect.com/science/article/pii/S1389128622001335>.

- [6] **Andrea Lacava**, Michele Polese, Rajarajan Sivaraj, Rahul Soundrarajan, Bhawani Shanker Bhati, Tarunjeet Singh, Tommaso Zugno, Francesca Cuomo, and Tommaso Melodia. “Programmable and Customized Intelligence for Traffic Steering in 5G Networks Using Open RAN Architectures”. In: *arXiv preprint arXiv:2209.14171* (2022).
- [7] Pierluigi Locatelli, Massimo Perri, Daniel Mauricio Jimenez Gutierrez, **Andrea Lacava**, and Francesca Cuomo. “Device discovery and tracing in the Bluetooth Low Energy domain”. In: *Computer Communications* (2023).