Luca **Arrotta**

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Education _____

PhD in Computer Science   Nov 2020 - Present
University of Milan   Milan, Italy
- o Mitigated deep learning issues like data scarcity and lack of transparency in the human activity recognition domain by investigating, designing, and implementing neuro-symbolic AI techniques.
- o Participated in the organization of the daily activities of my research group **EveryWare Lab** (5-10 people).

MSc in Computer Science   Sep 2017 – Dec 2019
University of Milan   Milan, Italy
- o Developed my thesis *Semi-supervised learning for multi-inhabitant activity recognition*, supervised by **Prof. Claudio Bettini**.

BSc in Computer Science for New Media Communications   Sep 2014 – Jul 2017
University of Milan   Milan, Italy
- o Developed my thesis *Analysis, design, and development of the GUI of an Android app for indoor navigation accessible to visually impaired people*, supervised by **Prof. Sergio Mascetti**.

Professional Experience _____

Speaker, content creator, and Writer   Feb 2021 - Present
Freelancer
- o Designed and presented in 2 Italian high-schools my seminar "A short journey through AI": a one-hour-long talk that introduces deep learning to those who never got in touch with this world (seminar website).
- o Creator of contents about deep learning for **Datapizza**, the largest Italian community about AI and Data Science.
- o Authors of articles and online courses about machine learning (Github repository) for **Marktechpost**, an AI news platform.

Cognitive consultant intern – Node.JS, Java, JavaScript, SQL, MongoDB   Jan 2020 – Jul 2020
IBM   Milan, Italy
- o Worked in the team that developed a virtual assistant for customer caring for a leading Italian Telco.
- o Designed and developed a web application that automatically detects and reports malfunction of the assistant.

Research Areas _____

- o Neuro-symbolic and explainable AI techniques for sensor-based human activity recognition
- o Single- and multi-inhabitant activity recognition in smart environments
- o Context-aware distributed and pervasive systems

Awards _____

- o Travel grant at ISACT 2021 summer school.
- o TCCC travel grant at PerCom 2021 conference.
- o 3 years research grant from the Italian national funding for Ph.D. courses at the Department of Computer Science, University of Milan, 2020.

Reviewer Activities _____

- o I have reviewed papers for the IEEE MDM and IEEE PerCom conferences.

Teaching Activities _____

Distributed and Pervasive Systems (Lab module)   Mar 2021 – Present
University of Milan   Milan, Italy
- o Taught for **2 years** the lab module of the MSc course *Distributed and Pervasive Systems*

Co-Advisor Activities _____

- o I am/was co-advisor for **3 BSc thesis** and **4 MSc thesis**.

Talks

Publications

Journals
1.   Arrotta, L., Civitarese, G., Bettini, C. **DeXAR: Deep Explainable Sensor-Based Activity Recognition in Smart-Home Environments**. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 2022.
2.   Arrotta, L., Civitarese, G., Bettini, C. **MICAR: Multi-Inhabitant Context-Aware Activity Recognition in Home Environments**. Distributed and Parallel Database, Springer, 2022.

International Conferences
3.   Arrotta, L., Civitarese, G., Fiori, M., Bettini, C. **Explaining Human Activities Instances Using Deep Learning Classifiers**. In 2022 IEEE International Conference on Data Science and Advanced Analytics (DSAA), 2022. To appear.
4.   Arrotta, L., Bettini, C., Civitarese, G. **Knowledge Infusion for Context-Aware Sensor-Based Human Activity Recognition**. In 2022 IEEE International Conference on Smart Computing (SMARTCOMP), 2022.
5.   Arrotta, L., Bettini, C., Civitarese, G. **The MARBLE Dataset: Multi-Inhabitant Activities of Daily Living Combining Wearable and Environmental Sensors Data**. In Proceedings of the 18th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (Mobiquitous), EAI, 2021.
6.   Arrotta, L., Bettini, C., Civitarese, G., Presotto, R. **Context-Aware Data Association for Multi-Inhabitant Sensor-Based Activity Recognition**. In 2020 21st IEEE International Conference on Mobile Data Management (MDM) (pp. 125-130). IEEE.

International Workshops
7.   Arrotta, L. **Multi-inhabitant and Explainable Activity Recognition in Smart Homes**. In 2021 22nd IEEE International Conference on Mobile Data Management (MDM) (pp. 264-266). IEEE.