

Leonardo Peroni

IMDEA Networks Institute
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Education

University Carlos III of Madrid

Ph.D., Telematic Engineering

November 2020 – present

Madrid Spain

Polytechnic University of Turin

M.Sc., Mechatronic Engineering

October 2015 – April 2018

Turin Italy - 110L/110

Thesis: Machine learning framework for classification of mild cognitive impairment and high resolution multispectral-multitemporal satellite images

The Sapienza University of Rome

B.Sc., Informatic and Automatic Engineering

September 2011 May 2015

Rome Italy - 110L/110

Thesis: Lab-on-chip integrated systems for thermal control in biomolecular analysis

Professional Experience

Research assistant

March 2020 – September 2024

IMDEA Networks Institute

Madrid Spain

- Video streaming QoE and influence factors, ABR algorithms, encodings (AVC, HEVC, LCEVC...)
- Classical machine learning, deep learning, reinforcement learning, active learning
- Spirit project and requirements for other project

Technology consultant

September 2018 – February 2020

Hesplora s.r.l.

Florence Italy

- Italian postal service (IT sector): from September 2019 to February 2020
- Acqua4.0 project: infrastructure developing for monitoring and reduction of loss in water pipeline of Tuscany (<http://www.acqua40.it/>)
 - search, wrangling, cleaning, visualization and analysis of strongly heterogeneous and non structured data (DEM, litology, Sar interferometry, terrain and pipeline data...)
 - KPI developing for risk of failure in water pipeline
 - Use of classical unsupervised learning technique: k-means, dbscan, pca
- Apollon project: infrastructure developing for monitoring environmental pollution (<http://apollon-project.it/>)
 - Implementation of cloud IoT platform for indoor pollution monitoring devices
 - Develop of services for IoT data pipeline

Journal Publications

- [2] **L. Peroni** and, S. Gorinsky “**An End-to-End Pipeline Perspective on Video Streaming in Best-Effort Networks: A Survey and Tutorial**”, *arXiv*, preprint arXiv:2403.05192, March 2024
- [1] **L. Peroni**, S. Gorinsky, F. Tashtarian, and C. Timmerer, “**Empowerment of Atypical Viewers via Low-Effort Personalized Modeling of Video Streaming Quality**”, *Proceedings of the ACM on Networking*, 1(CoNEXT3), pp. 1-27, December 2023

Conference Publications

- [3] **L. Peroni** and S. Gorinsky, “**Quality of Experience in Video Streaming: Status Quo, Pitfalls, and Guidelines**”, *COMSNETS 2024*, pp. 1-10, Bengaluru, India, January 2024
- [2] **L. Peroni**, S. Gorinsky, F. Tashtarian, and C. Timmerer, “**Empowerment of Atypical Viewers via Low-Effort Personalized Modeling of Video Streaming Quality**”, *ACM CoNEXT 2023* (published as journal article [1] in the Proceedings of the ACM on Networking), pp. 1-27, Paris, France, December 2023
- [1] A. Khaliq, **L. Peroni**, and M. Chiaberge, “**Land cover and crop classification using multitemporal sentinel-2 images based on crops phenological cycle**”, *IEEE EESMS 2018*, pp. 1–5, Salerno, Italy, June 2018

International Experience

Visiting Research Student <i>Korea Advanced Institute of Science & Technology (KAIST)</i>	March 2023 – August 2023 <i>Daejeon, South Korea</i>
Erasmus Extra UE <i>Beihang University</i>	September 2016 – February 2017 <i>Beijing, China</i>
English 4 U PET certification <i>Sprachcaffe Languages Plus</i>	July 2010 – July 2010 <i>Brighton, United Kingdom</i>

Awards & Honors

Available, Functional, and Reproduced ACM Artifact Badges for paper “Empowerment of Atypical Viewers via Low-Effort Personalized Modeling of Video Streaming Quality”, among three papers selected for presentation in the Artifacts session, <i>ACM CoNEXT 2023</i>	2023
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Talks

Empowerment of Atypical Viewers via Low-Effort Personalized Modeling of Video Streaming Quality <i>ACM CoNext</i>	December 2023 <i>Paris, France</i>
Empowerment of Atypical Viewers via Low-Effort Personalized Modeling of Video Streaming Quality <i>IMDEA-UC3M Research Seminar Series</i>	December 2023 <i>Madrid, Spain</i>
Video-streaming research: an end-to-end pipeline perspective <i>IMDEA-UC3M Research Seminar Series</i>	December 2021 <i>Madrid, Spain</i>

Grants

SIGCOMM Travel Grant <i>SIGCOMM</i>	August 2022 <i>Amsterdam, Netherlands</i>
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Professional Activities

ACM MM <i>Reviewer, Melbourne Convention and Exhibition Centre</i>	October 2024 <i>Melbourne, Australia</i>
IEEE SECON <i>Volunteer, University Carlos III of Madrid</i>	September 2023 <i>Madrid, Spain</i>
IEEE ICNP <i>Volunteer, IMDEA Networks Institute</i>	October 2020 <i>Madrid, Spain</i>

Language Skills

Italian: mother tongue, **English:** very good, **Spanish:** very good, **Chinese:** very basic

Computer Skills

Programming languages: Python, JavaScript, Matlab & Simulink, Java, SQL, Arduino IDE

Video tools: FFmpeg, GPAC, dash.js

Protocols: MPEG-DASH, WebRTC, QUIC, RTMP, HTTP, TCP

Python ML/DL libraries: Tensorflow, Keras, Scikit-learn, Pytorch

Cloud Platforms: AWS (EC2, IoT Core, Lambda, Dynamo db, MTurk, DeepLens, Rekognition)

Geospatial data analysis tools: Qgis, Snap

Process mining tools: Disco, Apromore, Prom