

# Lorenzo Agnolucci

Applied Machine Learning Scientist

San Francisco, CA, USA

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## Summary

Applied **Machine Learning** scientist with a **Ph.D.** in Computer Vision and Artificial Intelligence, specializing in **multimodal learning** and **low-level vision**. Experienced in conducting cutting-edge research independently and as part of a **collaborative team** in academia and **industry**, with a **proven track record** of publishing high-quality research in **top-tier venues**. Proficient in **Python** and **PyTorch**, as demonstrated by open-source contributions, with strong analytical, problem-solving, and communication skills. Highly motivated to contribute to innovative projects and eager to apply expertise to advance knowledge and technology in both exploratory and applied research settings.

## Work Experience

### Roblox

SENIOR MACHINE LEARNING ENGINEER

- Conduct applied research in content understanding for large-scale recommendation systems

San Mateo, CA, USA

Nov. 2025 - Present

### Sony AI

RESEARCH INTERN

- Conducted research on image quality assessment and low-level vision under the supervision of [Vlad Hosu](#)
- Co-organized a challenge and published a paper at the Advances in Image Manipulation workshop at ECCV2024
- Published a first-author paper related to image quality assessment at ICCV2025

Tokyo, Japan

Mar. 2024 - Nov. 2024

## Education

### University of Florence

PH.D. IN COMPUTER VISION AND ARTIFICIAL INTELLIGENCE

- Research areas: low-level vision, vision-language models, image quality assessment, video restoration
- Thesis: "Quality over Quantity: Enhancing and Assessing Image and Video Quality"
- Supervisor: Prof. [Marco Bertini](#)

Florence, Italy

Nov. 2021 - May 2025

### University of Florence

M.SC. IN COMPUTER SCIENCE AND ENGINEERING

- Thesis: "Deep Learning Techniques for Improving Video Visual Quality Using Keyframes"
- Supervisors: Prof. [Marco Bertini](#) and Prof. [Alberto Del Bimbo](#)
- Grade: 110/110 cum laude
- Core focus: computer vision, deep learning, machine learning, image/video processing

Florence, Italy

Oct. 2019 - Oct. 2021

### University of Florence

B.SC. IN COMPUTER SCIENCE AND ENGINEERING

- Thesis: "Localization of Figures in Scientific Articles"
- Supervisor: Prof. [Simone Marinai](#)
- Grade: 110/110 cum laude

Florence, Italy

Oct. 2016 - Oct. 2019

## Selected Publications

\* Equal contribution. A comprehensive publication list is available on my [Google Scholar](#) profile.

**L. Agnolucci\***, A. Baldrati\*, M. Bertini, A. Del Bimbo, *iSEARLE: Improving Textual Inversion for Zero-Shot Composed Image Retrieval*, Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2025

V. Hosu\*, **L. Agnolucci\***, D. Iso, D. Saupe, *Image Intrinsic Scale Assessment: Bridging the Gap Between Quality and Resolution*, International Conference on Computer Vision (**ICCV**), 2025

M. Mistretta\*, A. Baldrati\*, **L. Agnolucci\***, M. Bertini, A. Bagdanov, *Cross the Gap: Exposing the Intra-modal Misalignment in CLIP via Modality Inversion*, International Conference on Learning Representations (**ICLR**), 2025

**L. Agnolucci**, L. Galteri, M. Bertini, *Quality-Aware Image-Text Alignment for Opinion-Unaware Image Quality Assessment*, **Arxiv**, 2024

V. Hosu, M. Conde, **L. Agnolucci**, N. Barman, S. Zadtootaghaj, R. Timofte, et al., *AIM 2024 Challenge on UHD Blind Photo Quality Assessment*, European Conference on Computer Vision Workshop (**ECCVW**), 2024

V. Hosu, **L. Agnolucci**, O. Wiedemann, D. Iso, D. Saupe, *UHD-IQA Benchmark Database: Pushing the Boundaries of Blind Photo Quality Assessment*, European Conference on Computer Vision Workshop (**ECCVW**), 2024

**L. Agnolucci**, L. Galteri, M. Bertini, A. Del Bimbo, *ARNIQA: Learning Distortion Manifold for Image Quality Assessment*, Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV Oral**), 2024

**L. Agnolucci**, L. Galteri, M. Bertini, A. Del Bimbo, *Reference-based Restoration of Digitized Analog Videotapes*, Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), 2024

A. Baldrati\*, **L. Agnolucci\***, M. Bertini, A. Del Bimbo, *Zero-Shot Composed Image Retrieval with Textual Inversion*, International Conference on Computer Vision (**ICCV**), 2023

**L. Agnolucci\***, A. Baldrati\*, F. Todino, F. Becattini, M. Bertini, A. Del Bimbo, *ECO: Ensembling Context Optimization for Vision-Language Models*, International Conference on Computer Vision Workshop (**ICCVW**), 2023

**L. Agnolucci**, L. Galteri, M. Bertini, A. Del Bimbo, *Perceptual Quality Improvement in Videoconferencing using Keyframes-based GAN*, IEEE Transactions on Multimedia (**TMM**), 2023

## Skills

<b>Programming</b>	Python, Java, C++, C
<b>Tools</b>	PyTorch, NumPy, OpenCV, scikit-learn, pandas, Git, Docker, bash, Flask
<b>Languages</b>	Italian (native), English (fluent)

## Selected Activities

<b>Open-Source Contributor</b>	2024 - Ongoing
<ul style="list-style-type: none"><li><a href="#">torchmetrics</a> (&gt;2K stars): implemented an IQA metric developed in one of my research papers via a merged PR. Wrote unit tests and documentation to ensure correctness and usability. Maintained code quality by following the repository's coding standards and style guidelines.</li><li><a href="#">IQA-PyTorch</a> (&gt;2K stars): implemented IQA metrics developed in my research papers, fixed bugs, and updated documentation through multiple merged PRs. Ensured consistency with the repository's coding practices.</li></ul>	
<b>Workshop Challenge Organizer</b>	2024
<ul style="list-style-type: none"><li>Co-organized the <a href="#">UHD-IQA</a> challenge, held in conjunction with the AIM workshop at ECCV2024, with over 100 registered participants</li><li>Collaborated in the challenge design and decision-making, including defining objectives, evaluation criteria, and guidelines for participants</li><li>Evaluated baseline models, assessed participant solutions and reviewed their corresponding reports</li></ul>	
<b>Reviewer</b>	2022 - Ongoing
<ul style="list-style-type: none"><li>Conferences: CVPR, ICCV, ACM MM, ICPR, BMVC, ICMR</li><li>Journals: TIP, IJCV, JAIR, TMM, TOMM, IJMIR</li></ul>	

## Achievements

2021	<b>First Ascent Participant</b> , Selected by <a href="#">Bending Spoons</a> to participate in <a href="#">First Ascent</a> , a three-day event celebrating Italy's top 20 Computer Science students, chosen from over 500 applicants	<a href="#">Milan, Italy</a>
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