

Lorenzo Agnolucci

Ph.D. Candidate

Florence, Italy

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Summary

Dedicated Ph.D. candidate (thesis submitted, awaiting defense) in **Computer Vision** and Artificial Intelligence with a strong background in **low-level vision** and **vision-language models**. 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.

Education

University of Florence

PH.D. IN COMPUTER VISION AND ARTIFICIAL INTELLIGENCE

Florence, Italy

Nov. 2021 - Nov. 2024

- Research areas: low-level vision, vision-language models, image quality assessment, video restoration
- Supervisor: Prof. [Marco Bertini](#)
- Thesis defense date: Spring 2025

University of Florence

M.SC. IN COMPUTER SCIENCE AND ENGINEERING

Florence, Italy

Sep. 2019 - Sep. 2021

- 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

University of Florence

B.SC. IN COMPUTER SCIENCE AND ENGINEERING

Florence, Italy

Sep. 2016 - Sep. 2019

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

Work Experience

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RESEARCH INTERN

Tokyo, Japan

Mar. 2024 - Nov. 2024

- 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
- Submitted a first-author paper related to image quality assessment to a top-tier conference

Selected Publications

* Equal contribution. A comprehensive publication list is available on my Google Scholar profile.

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

V. Hosu*, **L. Agnolucci***, D. Iso, D. Saupe, *Image Intrinsic Scale Assessment: Bridging the Gap Between Quality and Resolution*, Arxiv (**Under review**), 2024

L. Agnolucci, L. Galteri, M. Bertini, *Quality-Aware Image-Text Alignment for Real-World Image Quality Assessment*, Arxiv (**Under review**), 2024

L. Agnolucci*, A. Baldrati*, M. Bertini, A. Del Bimbo, *iSEARLE: Improving Textual Inversion for Zero-Shot Composed Image Retrieval*, Arxiv (**Under review**), 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

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

Selected Activities

- Workshop Challenge Organizer**2024
- Co-organized the [UHD-IQA](#) challenge, held in conjunction with the AIM workshop at ECCV2024, with over 100 registered participants
 - Collaborated in the challenge design and decision-making, including defining objectives, evaluation criteria, and guidelines for participants
 - Evaluated baseline models, assessed participant solutions and reviewed their corresponding reports
- Open-Source Contributor**2024 - Ongoing
- [torchmetrics](#) (>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.
 - [IQA-PyTorch](#) (>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.
- Reviewer**2022 - Ongoing
- Conferences: CVPR, ACM MM, ICPR, BMVC, ICMR
 - Journals: Transactions on Image Processing, Transactions on Multimedia, International Journal of Multimedia Information Retrieval

Achievements

2021

First Ascent Participant, Selected by [Bending Spoons](#) to participate in [First Ascent](#), a three-day event celebrating Italy's top 20 Computer Science students, chosen from over 500 applicants

[Milan, Italy](#)