# Fabio Pizzati

*Curriculum Vitae*

✆ +39 3408176447
✉ pizzati.fabio@gmail.com
🖥 fabvio.github.io

## Research overview

I am a postdoctoral researcher at University of Oxford, working with Philip Torr. Previously, I was a co-tutelle PhD student at Inria and the University of Bologna, supervised by Raoul de Charette. My research interests span across computer vision and graphic modeling, with applications on large scale generative networks.

***Keywords:*** *diffusion models, physics-based rendering, image-to-image translation, physics-guided learning, domain adaptation, GANs, web-driven learning, feature disentanglement, adverse weather, few-shot learning*

## Selected Publications

| | |
|---|---|
| WACV 2020 | **Domain Bridge for Unpaired Image-to-Image Translation and Unsupervised Domain Adaptation**. <br> Fabio Pizzati, Raoul de Charette, Michela Zaccaria, Pietro Cerri |
| ECCV 2020 | **Model-based occlusion disentanglement for image-to-image translation**. <br> Fabio Pizzati, Pietro Cerri, Raoul de Charette |
| CVPR 2021 **(oral)** | **CoMoGAN: continuous model-guided image-to-image translation**. <br> Fabio Pizzati, Pietro Cerri, Raoul de Charette |
| VISAPP 2022 **(best paper)** | **Leveraging local domains for image-to-image translation**. <br> Anthony Dell'Eva, Fabio Pizzati, Massimo Bertozzi, Raoul de Charette |
| ECCV 2022 | **ManiFest: manifold deformation for few-shot image translation**. <br> Fabio Pizzati, Jean Francois Lalonde, Raoul de Charette |
| T-PAMI 2023 | **Physics-informed Guided Disentanglement in Generative Networks**. <br> Fabio Pizzati, Pietro Cerri, Raoul de Charette |
| arXiv 2023 | **Material Palette: material extraction from a single image**. <br> Ivan Lopes, Fabio Pizzati, Raoul de Charette |

For a complete list including pre-PhD works, please check my Google Scholar.

## Education

| | |
|---|---|
| 2018-2022 | **France / Italy co-tutelle PhD program**, Inria \| Mines ParisTech \| University of Bologna. <br> PhD scholarship granted by Vislab / Ambarella |
| 2015-2018 | **MSc in computer engineering**, University of Parma. <br> **Final mark:** 110/110 cum laude, **GPA:** 29.81/30 |
| 2012-2015 | **BSc in computer, electronic and communication engineering**, University of Parma. <br> **Final mark:** 110/110 cum laude, **GPA:** 30/30 |

## Previous Experiences

**06/18 | 09/18**
**Madrid, ES**
**Research Internship**, Universidad Carlos III.
I was visiting student at UC3M under the supervision of Fernando Garcia working on free space and lane detection with CNNs. The internship resulted in publications and my networks have been used in the laboratory autonomous vehicle perception stack.

**09/17 | 05/18**
**Parma, IT**
**Research Internship**, Vislab / Ambarella.
Study and development of deep learning applications. Analysis of sparse convolutions for efficient neural networks architectures.

**09/16 | 02/17**
**Modena, IT**
**Traineeship**, Onionlink SRL.
Adaptation of a real-time transcoding and video elaboration software for an autonomous surveillance system for multiple video streams.

**04/15 | 09/15**
**Parma, IT**
**Traineeship**, Vislab / Ambarella.
Development of an application to extract information from description files of recorded sensorial data sequences.

## Awards / Scholarships / Press

- My PhD thesis has been featured in Computer Vision News.
- Selected for the Doctoral Consortium at CVPR 2022 and awarded travel scholarship.
- Best paper award at VISAPP 2022.
- Bando Vinci for co-tutelle PhD students between Italy and France
- French government scholarship for AI research in 2020
- Erasmus SMT for 2021 France stay
- Selected among 150 students worldwide for ICVSS 2019 (~20% acceptance)
- Erasmus SMT for 2018 Spain stay
- Fully paid travel / expenses for CMMRS 2018 summer school (~20% acceptance)
- Tax exemption for merit in every year of the MSc.

## Teaching activities

**A.Y. 2018/2019**
Teaching assistant for the MSc course "Computer Vision for Vehicles", held by University of Parma, open to students from Universities of Bologna and Reggio Emilia.

**A.Y. 2018/2019**
Assistant for the CNN and Deep Learning introduction of the MSc course in Computer Vision of University of Parma.

**A.Y. 2016/2017**
Teaching assistant for the course "Principles of Automatic Control" of University of Parma, solving problems and providing mathematical fundamentals in Automatic Control theory.

## Invited Talks

**06/12/2023**
Oxford University, OxfordXML seminar. Topic: "Physics-informed generative networks".

**31/10/2022**
Carnegie Mellon VASC seminar. Topic: "Physics-informed image translation with generative networks".

**31/05/2022**
*GdR ISIS: Generative models: Control and (mis)Usage.* Topic: "Few-shot image translation with manifold deformation".

**17/06/2021**
GTTI online workshop on "Deep Signal Processing for a safer world". Topic: "Physics-informed image translation with generative networks".

**10/06/2021**
EPFL computer vision talks. Topic: "Physics-informed image translation with generative networks".

**06/09/2020**
*GdR ISIS: Self-supervised and unsupervised representation learning.* Topic: "Model-based occlusion disentanglement for image-to-image translation".

**06/05/2021**
*Valeo.ai seminar on deep learning research.* Topic: "CoMoGAN: continuous model-guided image-to-image translation".

## Community services

Co-organizer of the _WSCV workshop_ at Deep Learning Indaba (2022, 2023).

Reviewing (conference)
CVPR (2021, 2022, 2023), ECCV (2022), WACV (2022, 2023, 2024), ICRA (2022), ICCV (2023), NeurIPS (2023)

Reviewing (journal)
T-PAMI, R-AL, Information Fusion, T-MM, CVIU, Journal of Automatica Sinica

## Skills

**Programming languages:** Python, C/C++, Java, MATLAB, Javascript

**Topics:** computer vision, generative networks, image translation, domain adaptation, semantic segmentation, object detection, deep learning

**Tools/Frameworks:** PyTorch, slurm, Numpy, Jupyter, MatPlotLib, OpenCV, PIL, Tensorboard, WandB, ROS, LaTex, Bash, UNIX/Linux

## Languages

**Italian:** Native, **English:** Advanced (C1) IELTS 8.0, **French:** Intermediate (B2)

## Interests / Personal

Passion for classical piano, which I studied for 10 years at the conservatory during high school and university (graduated 2018). Love for travelling and food, sports (especially skiing).