



Olivier RISSE-MAROIX

Applied Research Scientist
Ph.D. in ML/CV

- April 26, 1996
- +33 6 69 36 94 48
- orissermaroux@gmail.com
- LinkedIn
- Github

Hard Skills

- Using **Python** since 2012
- ML/DL Frameworks:** ONNX, Keras, PyTorch, Sklearn, Transformers (HF)
- Deployment:** Git, Docker, BentoML, Pytest, Haystack, FastAPI, Flask, Celery, RabbitMQ, Redis, S3

Soft Skills

- Writing:** wrote papers for international scientific conferences.
- Communication:** Explained technical work to global academic experts, as well as to non-expert clients and students. (*EN, FR*)
- Leadership:** Instigating collaborations, Leading research projects, Managing interns, Tutoring students.
- Ownership:** Single-handedly evaluated ideas, took them to production, and maintained them.

Languages

- French: Native
- English: Professional

Working Experience

- current – Jan 2025** **Machine Learning Researcher – CSO** **Equos (ex Lipitt), Paris, FR**
 - Building the R&D for live talking head avatars & video processing.
 - Try it on : <https://studio.equos.ai>
 - Streaming, 3DGS, GAN, Diffusion, Lip Sync, Talking Head.
 - PyTorch, OpenCV, Triton Server, ffmpeg, onnx.
- 2024 – 2023 (1 year 7m)** **Lead Machine Learning Researcher** **Artinity, Paris, FR**
 - Designing and training pipelines for image generation, captioning, prompt enhancing, super resolution, model souping.
 - Instigating collaborations with *Ecole Normale Supérieure (ULM)* and *Sorbonne Paris Nord (P'13)* for research projects on prompt performance prediction and model ensemble compression.
 - Leading research and managing PhD students and an intern.
 - VQ-GAN, Diffusion Models, LoRA, DreamBooth, Super Resolution.
 - PyTorch, HuggingFace, OpenCV, scikit-learn, Haystack, Weaviate.
- 2019 – 2023 (3 years 5m)** **Machine Learning Engineer** **Smiths Detection, Paris, FR**
 - Designing a new kind of CBIR image search engine: the system emphasizes the visual aspect and lowers the semantic one.
 - Putting in production by writing REST API and UI, maintaining/adapting based on client feedback. Used worldwide by customs.
 - Writing scientific reports and one patent.
 - Managing an intern.
 - Contrastive Learning, Metric Learning, CBIR.
 - Python, PyTorch, scikit-learn, JavaScript, HTML, CSS, Docker.
- 2019 (6 months)** **ML Engineer Intern** **CNES, Toulouse, FR**
 - Benchmarking state of the art deep learning based segmentation neural networks for Satellite Image Segmentation.
 - Gathering & benchmarking data from previous space missions to anticipate the performance of the future SWOT space mission.
 - Active Learning, UNet, Dilated Convolutions, FCN.
 - OpenCV, PyTorch, scikit-learn, QGIS, Super Computer.
- 2018 (3 months)** **ML Research Intern** **Center for Machine Perception, Prague, CZ**
 - Compressing by 3 the size of a CNN without any score drop.
 - Separable Convolutions, Pruning, Knowledge Distillation.
 - PyTorch, Tensorboard.
- 2017 (3 months)** **ML Research Intern** **IRIT, Toulouse, FR**
 - Clustering faces by identity and classifying emotions to improve speaker diarization.
 - Providing an alternative path and was included into a Ph.D. thesis.
 - Siamese Networks, Triplet Networks, Hierarchical Clustering.
 - Python, Keras, scikit-learn, OpenCV.
- 2016 (3 months)** **Software Development Intern** **Thales Avionics, Toulouse, FR**
 - Developing an anomaly detection software for server monitoring.
 - Python, SQL, Docker, Android.
- 2019 – 2022** **Ph.D. in Machine Learning** **Universite Paris Cite, Paris, FR**
 - Initiating collaborations with *IRIT*.
 - Computer Vision, Image Retrieval, ML, DL, Psychology.
- 2017 - 2019** **MSc in Machine Learning** **Sorbonne University, Paris, FR**
 - MSc Thesis on *Conversational Systems for Information Retrieval*.
 - ML, DL, Reinforcement Learning, NLP, Computer Vision.

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Side Projects

- 2025 **BLOUPLoop.COM**
📄 Writing a web app taking any picture of face and generating a looping gif making "bloup bloup" like a fish for the 1st of April.
Face Detection, Face Face Reenactment, Heavy Models Serving.
⚙️ Pytorch, ONNX, Triton, Celery, Redis, S3, Nginx, Google Analytics
- 2024 **MLBRO.COM**
📄 Writing a "leetcode clone" for machine learning coding question interview preparation. The user's code is handled on server side inside secure on the fly docker instances. (<https://mlbro.com/login>)
⚙️ Docker, Celery, Redis, Nginx, Postgresql, Tailwind/DaisyUI
- 2023 **Face Re-Identification for DeepFake fighting**
📄 Writing a web search engine to retrieve misuses of your face.
CBIR, Face Detection, Face Re-Identification, Domain Adaptation.
⚙️ Pytorch, ONNX, Celery, RabbitMQ, S3, MongoDB, FAISS, Scrapy.
- 2019 **AraLang**
📄 Writing a Progressive Web App to learn the Arabic alphabet.
🔗 <https://vievie31.github.io/AraLang/> (use on mobile).
Online Learning, Domain Adaptation, KNN, Dynamic Time Warping.
⚙️ React, JS, Material-UI, CSS.
- 2019 **BonAPity**
📄 A python package for automatic REST API generation from scratch.
🔗 <https://github.com/VieVie31/bonapity> .
- 2018 **Natural Language Query translation into Keywords**
Seq2Seq, CRF, BM25.
📖 Wikipedia, SQuAD, QALD.
⚙️ Python, Spark, Pytorch.
- 2017 **TV Show Generic Detecor**
📄 Writing a software able to detect generic in series using Perceptual Hash on video frames.
🔗 https://github.com/VieVie31/scene_detection.
⚙️ Python, Docker, ffmpeg.
- 2016 **TF-IDF Pdf Search Engine**
📄 Writing a smal pdf search engine.
🔗 <https://github.com/VieVie31/podofu> .
⚙️ Python, Flask, SQL, HTML, CSS, JS.

Publications

- 2024 **RADIN: Souping on a Budget**
T. Ménès, O. Risser-Maroux, arXiv
- 2024 **Prompt Performance Prediction for Image Generation**
N. Bizzozzero, I. Bendidi, O. Risser-Maroux, ICIP
- 2023 **What can we Learn by Predicting Accuracy?**
O. Risser-Maroux, B. Chamand, WACV
- 2023 **Image retrieval system**
O. Risser-Maroux, et Al., Patent WO2023281243A1
- 2022 **Finding Components of a Good Accuracy with XAI!**
B. Chamand, O. Risser-Maroux, AIMLAI @ CIKM
- 2022 **Fine-tune your classifier: Finding correlations with temperature**
B. Chamand, O. Risser-Maroux, et Al., ICIP
- 2022 **Discovering respects for visual similarity**
O. Risser-Maroux, C. Kurtz, N. Lomenie, S+SSPR
- 2021 **Learning an Adaptation Function to Assess Image Visual Similarities**
O. Risser-Maroux, C. Kurtz, N. Lomenie, ICIP

Talks / Lectures

- 2023 **Photographie et Intelligence Artificielle**
Colloquium – Université Paris 1 – Pathéon Sorbonne,
- 2022 **From Perceptron to Deep Self-Supervised Learning**
3h – MSc Level – Université Paris Cité,
- 2021/22 **Introduction to Traditional Image Processing**
72h – BSc Level – Université Paris Cité,