Juliette Marrie

Postdoctoral researcher at Kyutai

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Education

2022-2025	**PhD**, *Inria Thoth and NAVER LABS Europe*, *Topic: Visual Representation Learning from Limited and Heterogeneous Sources* Advisors: Julien Mairal, Diane Larlus, Michael Arbel
2020-2021	**M2 MVA: Mathematics, Vision, Learning**, *ENS Paris-Saclay*, Double Degree *Main courses:* Optimization, Image analysis, Statistical learning.
2017-2021	**Master's degree**, *Mines ParisTech* *Main courses:* Applied Mathematics, Control Theory, Machine Learning, Statistics.
2018	**Visiting student**, *National University of Singapore* *Main courses:* Constrained optimization, Deep Learning, Uncertainty Modeling in AI.
2015-2017	**Preparatory classes**, *Lycée Blaise Pascal - Orsay*, MPSI–MP*

Professional experience

2025-	**Kyutai**, *Postdoctoral researcher*, Integrating visual understanding into audio-language models.
2022-2025	**Inria Thoth and NAVER LABS Europe**, *PhD*, Advisors: Julien Mairal, Diane Larlus, Michael Arbel ○ Automatically learning optimal data augmentation in supervised tasks beyond natural images (CVPR 2023) ○ Leveraging large pretrained models for training smaller models on specific tasks (TMLR 2024) ○ Transferring 2D visual representations into 3D Gaussian Splatting scenes (arXiv)
2021-2022	**Inria THOTH**, *Research engineer*
2021 (6 months)	**Philips Research France**, *Self-supervised learning on 3D medical images*, Advisor: Antoine Olivier ○ Exploring state-of-the-art pre-training approaches for segmentation and classification. ○ Adapting methods mostly developed for 2D natural images to 3D ultrasound data.
2020 – 2021 (6 months)	**Weill Cornell Medicine / New York Genome Center - Landau Lab**, *Cancer Genomics and Evolutionary Dynamics*, Advisor: Dan Landau ○ Exploring Bayesian methods for phylogenetic tree reconstruction from single-cell data. ○ Handling high levels of noise and missing values, and evaluating reconstruction without access to ground truth
2019 – 2020 (6 months)	**Neural Concept, EPFL start-up**, *Bayesian optimization with neural network surrogates*, Advisor: Pierre Baqué ○ Leveraging Geometric Deep Learning for predicting the outcomes of Computational Fluid Dynamics simulations ○ Development of new optimization methods over input 3D shapes with direct application to real use cases.

Publications

CVPR 2023	SLACK: Stable Learning of Augmentations with Cold-start and KL regularization *Juliette Marrie, Michael Arbel, Diane Larlus, Julien Mairal*
TMLR 2024	On Good Practices for Task-Specific Distillation of Large Pretrained Visual Models *Juliette Marrie, Michael Arbel, Julien Mairal, Diane Larlus*
ICCV 2025	LUDVIG: Learning-free Uplifting of 2D Visual features to 3D Gaussian Splatting scenes *Juliette Marrie, Romain Menegaux, Michael Arbel, Diane Larlus, Julien Mairal*
Patents	Two patent applications

Services for the community

Teaching	'Kernel Methods' course at AMMI (African Masters of Machine Intelligence), 2023 and 2024.
Seminars	Organizing the weekly THOTH seminars (2023-2024)
Reviewing	Reviewer at CVPR 2024, ICLR 2025

Language proficiency

French (native), English (fluent), Russian (upper-intermediate), Spanish (upper-intermediate)

Hobbies

Music	Cello (since childhood)
Sports	Ballet and partner dance (rock, salsa).