MARLENE CAREIL

FINAL YEAR PHD STUDENT (META AI - TELECOM PARIS)

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PROFILE SUMMARY

- Searching for job opportunities as a **Research Engineer/Scientist**
- Research Assistant at Meta AI working on **generative models**. Papers accepted at top conferences (NeurIPS, CVPR, ICCV,...)
- Completed a master's degree in Mathematics and Computer Science at CentraleSupélec and the University of Oxford

WORK EXPERIENCE

PhD Student March, 2021 - Now

Meta AI, Paris

- My expertise includes **large-scale engineering**. I built on pretrained text-to-image diffusion models/transformers and finetuned them on large-scale datasets for different tasks including various conditioning modalities or compression.
- Developed methods to **improve controllability** on the content generated for **GANs and text-to-image diffusion models**.
- Worked on a **perceptual compression method** based on generative models.

Research Engineer Nov., 2020 - March, 2021

Telecom Paris

- Worked on improving image generation quality and diversity with GANs.

Research Internship June, 2020 - Nov, 2020

Facebook AI Research, Paris

- Worked on a new conditional invertible architecture building upon flow-based generative models for image-to-image translation.

Research Internship June, 2019 - Aug., 2019

INRIA, Rennes

- Implementation in Python of a web interface to interact with infrared cameras.
- Worked on 3D infrared image reconstruction from multiple views of the same scene.

EDUCATION

PhD Student 2021-Now

Meta AI / Telecom Paris

Advised by Jakob Verbeek (Meta AI) and Stéphane Lathuilière (Telecom Paris). **Graduation expected in March 2024.**

MSc in Mathematical Sciences 2019 - 2020

University of Oxford

Graduated with Distinction.

Main courses: Theories of Deep Learning, Algorithmic Foundations of Learning, Advanced Topics in Statistical Machine Learning

Engineering Master's degree 2017 - 2020

CentraleSupélec

GPA: 3.9/4

Main courses: Computer Science, Applied Mathematics, Electrical Engineering

PAPERS

- [1] **Marlène Careil**, Matthew J Muckley, Jakob Verbeek, Stéphane Lathuilière, Towards image compression with perfect realism at ultra-low bitrates. https://arxiv.org/abs/2310.10325
- [2] **Marlène Careil***, Guillaume Couairon*, Matthieu Cord, Stéphane Lathuilière, Jakob Verbeek. *Zero-shot spatial layout conditioning for text-to-image diffusion models*. In **ICCV 2023**. https://arxiv.org/abs/2306.13754
- [3] **Marlène Careil**, Jakob Verbeek, Stéphane Lathuilière. *Few-shot Semantic Image Synthesis with Class Affinity Transfer*. In **CVPR 2023**. https://arxiv.org/abs/2304.02321
- [4] **Marlène Careil**, Stéphane Lathuilière, Camille Couprie, Jakob Verbeek. *Unifying conditional and unconditional semantic image synthesis with OCO-GAN*. In **ECCV 2022** workshop on Advances in Image Manipulation.
- [5] Arantxa Casanova, **Marlène Careil**, Adriana Romero-Soriano, Christopher J. Pal, Jakob Verbeek, Michal Drozdzal. *Controllable Image Generation via Collage Representations*. https://arxiv.org/abs/2304.13722
- [6] Arantxa Casanova, **Marlène Careil**, Jakob Verbeek, Michal Drozdzal, Adriana Romero-Soriano. *Instance-Conditioned GAN*. In **NeurIPS 2021**, accepted as **spotlight**. https://arxiv.org/abs/2109.05070

SKILLS

- Languages: French (native), English (C1), German (A2)
- Programming: Python, C, Latex

MISCELLANEOUS

- Volunteered at Sopra Steria to help disabled students during my studies.
- Took part in various mathematics competitions in high school, including the Olympiad (ranked 25/861) and the Concours Général.
- Got my diploma in music education and piano at the Conservatory.