

Oscar Mañas

Research Scientist · Meta Superintelligence Labs · Zurich, Switzerland

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EXPERIENCE

- **Research Scientist**, Meta Superintelligence Labs, Zurich Oct 2025 – present
 - Working on generative model distillation and real-time interactive world models, delivering 10× speedups for image-editing models deployed across Meta's products.
- **Visiting Researcher**, Meta FAIR, Montreal 2024 – 2025
 - Developed reward-guided decoding to control multimodal LLMs at inference time, cutting object hallucination by ~70% at 6× the sample-efficiency of rejection sampling (ICCV 2025), advised by Michal Drozdal and Adriana Romero.
- **Research Scientist Intern**, Meta FAIR, Montreal 2023
 - Built automatic prompt optimization (OPT2I) that improved text-to-image consistency by up to 25% while preserving image quality (TMLR 2024, Featured Certification), advised by Adriana Romero and Michal Drozdal.
- **Research Intern**, Element AI, Montreal 2020 – 2021
 - Developed Seasonal Contrast (SeCo), a self-supervised pre-training method for remote sensing, improving land-cover classification by +8 mAP over ImageNet pre-training and matching full-label accuracy with 100× fewer labels (ICCV 2021; 500+ citations), advised by Pau Rodríguez and David Vázquez.
- **Computer Vision Engineer**, Mediapro R&D, Barcelona 2019 – 2020
 - Built real-time video analysis pipelines for automatic sports production, deployed in live broadcast.
- **Research Assistant**, Image Processing Group, UPC, Barcelona 2018 – 2019
 - Researched self-supervised visual representations for sample-efficient reinforcement learning, advised by Xavier Giró and Víctor Campos.
- **Deep Learning Engineer**, Restb.ai, Barcelona 2017 – 2019
 - Built and deployed production visual-recognition models for real-estate property imagery at scale.
- **Research Assistant**, Architectures and Compilers Group, UPC, Barcelona 2016 – 2017
 - Optimized deep neural networks for real-time inference on power-constrained edge devices (Nvidia Jetson TX1), achieving a 1.55× speedup, 31% lower energy, and an 86% smaller memory footprint, advised by Antonio González and José María Arnau.

EDUCATION

- **Ph.D. Computer Science**, Mila / Université de Montréal 2021 – 2025
 - Thesis: [Towards efficient, reliable and measurable vision-language systems](#)
 - Supervised by Prof. [Aishwarya Agrawal](#). GPA: 4.3/4.3.
 - Nominated for the Dean's Honour List.
- **M.Sc. Computer Vision**, Computer Vision Center / Universitat Autònoma de Barcelona 2018 – 2020
 - Rank 1/35. Grade: 9.58/10. Recognition of outstanding academic achievement.
 - Thesis: [Self-Supervised Visual Representation Learning for Remote Sensing](#).
- **B.Sc. Informatics Engineering (Computer Science)**, Universitat Politècnica de Catalunya 2013 – 2017
 - Rank 1/235. Grade: 9.52/10. Recognition of outstanding academic achievement.
 - Thesis: [Adapting Deep Neural Networks to a Low-Power Environment](#).

1. **LatentLens: Revealing Highly Interpretable Visual Tokens in LLMs**
Benno Krojer, Shravan Nayak, **Oscar Mañas**, Vaibhav Adlakha, Desmond Elliott, Siva Reddy, Marius Mosbach
ICML 2026
2. **SneakPeek: Future-Guided Instructional Streaming Video Generation**
Cheeun Hong, German Barquero, Fadime Sener, Markos Georgopoulos, Edgar Schönfeld, Stefan Popov, Yuming Du, **Oscar Mañas**, Albert Pumarola
arXiv 2025
3. **Controlling Multimodal LLMs via Reward-guided Decoding**
Oscar Mañas, Pierluca D'Oro, Koustuv Sinha, Adriana Romero-Soriano, Michal Drozdal, Aishwarya Agrawal
ICCV 2025
4. **Learning What Matters: Prioritized Concept Learning via Relative Error-driven Sample Selection**
Shivam Chandhok, Qian Yang, **Oscar Mañas**, Kanishk Jain, Leonid Sigal, Aishwarya Agrawal
CVPR 2026
5. **EvalGIM: A Library for Evaluating Generative Image Models**
Melissa Hall, **Oscar Mañas**, Reyhane Askari Hemmat, Mark Ibrahim, Candace Ross, Pietro Astolfi, Tariq Berrada Ifriqi, Marton Havasi, Yohann Benchetrit, Karen Ullrich, Carolina Braga, Abhishek Charnalia, Maeve Ryan, Mike Rabbat, Michal Drozdal, Jakob Verbeek, Adriana Romero-Soriano
arXiv 2024
6. **Consistency-Diversity-Realism Pareto Fronts of Conditional Image Generative Models**
Pietro Astolfi, Marlene Careil, Melissa Hall, **Oscar Mañas**, Matthew Muckley, Jakob Verbeek, Adriana Romero-Soriano, Michal Drozdal
arXiv 2024
7. **An Introduction to Vision-Language Modeling**
Florian Bordes, Richard Yuanzhe Pang, Anurag Ajay, Alexander C. Li, Adrien Bardes, Suzanne Petryk, **Oscar Mañas**, Zhiqiu Lin, Anas Mahmoud, Bargav Jayaraman, Mark Ibrahim, Melissa Hall, Yunyang Xiong, Jonathan Lebensold, Candace Ross, et al.
arXiv 2024
8. **Improving Text-to-Image Consistency via Automatic Prompt Optimization**
Oscar Mañas, Pietro Astolfi, Melissa Hall, Candace Ross, Jack Urbanek, Adina Williams, Aishwarya Agrawal, Adriana Romero-Soriano, Michal Drozdal
TMLR 2024
9. **Improving Automatic VQA Evaluation Using Large Language Models**
Oscar Mañas, Benno Krojer, Aishwarya Agrawal
AAAI 2024
10. **MAPL: Parameter-Efficient Adaptation of Unimodal Pre-Trained Models for Vision-Language Few-Shot Prompting**
Oscar Mañas, Pau Rodríguez, Saba Ahmadi, Aida Nematzadeh, Yash Goyal, Aishwarya Agrawal
EACL 2023
11. **Seasonal Contrast: Unsupervised Pre-Training from Uncurated Remote Sensing Data**
Oscar Mañas, Alexandre Lacoste, Xavier Giró-i-Nieto, David Vázquez, Pau Rodríguez
ICCV 2021
12. **A Weakly Supervised Consistency-based Learning Method for COVID-19 Segmentation in CT Images**
Issam Laradji, Pau Rodríguez, **Oscar Mañas**, Keegan Lensink, Marco Law, Lironne Kurzman, William Parker, David Vázquez, Derek Nowrouzezahrai
WACV 2021

TECHNICAL SKILLS

- **Languages:** Python (proficient); C++, Java, C, CUDA, SQL (familiar)
- **ML Frameworks:** PyTorch, HuggingFace (Transformers, Diffusers), vLLM, NumPy, OpenCV
- **Tools:** Git, Docker, LaTeX, TensorBoard, Weights & Biases, Submitit
- **Systems:** Linux/Unix, Slurm, distributed training/inference, parallel programming

SELECTED AWARDS

- **Graduate Excellence Scholarships**, Université de Montréal (J. Armand Bombardier, DIRO, J.A. DeSève, and Artificial Intelligence funds) 2022, 2023, 2024, 2025
- **National End-of-Degree Award in University Education**, Spanish Ministry of Education 2021
- **Mila PhD Scholarship**, Mila - Quebec AI Institute 2021
- **McGill Engineering Doctoral Award** (declined), Faculty of Engineering, McGill University 2021
- **Mitacs Accelerate International Grant**, Mitacs Canada 2020

ACADEMIC SERVICE

- **Invited Talks:** [Deep Learning Barcelona Symposium 2025](#) — spotlight talk ([recording](#))
- **Reviewer:** CVPR 2026, ECCV 2026, CVPR 2025, ICLR 2025, MAIS 2024, EMNLP 2024, ECCV 2024, CVPR 2024, NeurIPS 2023, ACL 2023, ICCV 2021
- **Teaching Assistant:** Links between Computer Vision and Language, UdeM (2023); Postgraduate AI for Deep Learning, UPC School (2020); Summer School on Deep Learning for Vision, UPC (2019)

LANGUAGES

- English (fluent, TOEFL 109/120), French (advanced, C1), Catalan (native), Spanish (native)