

LIAM MOROY

Ph.D. candidate in Signal and Image Processing via Artificial Intelligence.
Available from November 2025.

@ liam.moroy@[outlook, gmail].com

📍 Bordeaux 33000, France

☎ +33 6 84 51 09 94



SUMMARY

Ph.D. candidate in Deep Learning at Université Paris-Saclay within the DTIS team at ONERA in Palaiseau. My work focuses on solving highly ill-posed inverse problems using deep learning, applied to tomographic imaging.

EDUCATION

[Ongoing] Ph.D. – ONERA, DTIS/MIC group

- Université Paris-Saclay, STIC group
- Generative AI (diffusion models) for solving inverse problems in imaging, applied to tomographic imaging.
- Supervised by J.-F. Giovannelli, F. Champagnat, and G. Bourmaud.

📅 2022 - 2025

📍 Palaiseau, France

Master of Science, Electronics Engineering, Specialized in Signal Processing

- Enseirb-Matmeca, Bordeaux INP

📅 2019 - 2022

📍 Bordeaux, France

Master of Science and Technology – Complex Systems Engineering

- (concurrent with the above degree)
- University of Bordeaux.

📅 2022

📍 Bordeaux, France

CPGE Descartes

- Preparatory classes: Maths Sup - Maths Spé.

📅 2017 - 2019

📍 Tours, France

RESEARCH ACTIVITIES

Publications:

- “Evaluating the Posterior Sampling Ability of Plug&Play Diffusion Methods in Sparse-View CT”, poster session, ICASSP 2025, [L. Moroy](#), G. Bourmaud, F. Champagnat, J.-F. Giovannelli
- “On the Posterior Gap in Plug&Play Diffusion Methods for Sparse-View CT”, submitted to IEEE JSTSP Special Issue on High-Dimensional Imaging: Emerging Challenges and Advances in Reconstruction and Restoration, [L. Moroy](#), G. Bourmaud, F. Champagnat, J.-F. Giovannelli

Oral Presentations:

- GdR IASIS: Advances in Learning-Based Image Restoration, 09/12/2024, Henri Poincaré Institute, Sorbonne University, Paris.

ACADEMIC EXPERIENCE

University of Bordeaux

- Master ISC – ISIS track – Year 1: Teaching assistant for labs on introduction to noise and random signals (2023/24 & 2024/25).

ENSEIRB-MATMECA engineering school

- Engineering cycle – TSI track – Year 3: Teaching assistant for practicals on generative artificial intelligence via diffusion models (2024/25).
- Engineering cycle – Electronics track – Year 1: Teaching assistant for labs and projects in C/C++ programming (2023/24 & 2024/25).

PROFESSIONAL EXPERIENCE

R&D Internship – *Deep Learning* for tomographic reconstruction of compressible flows

ONERA (DTIS/MIC)

📅 Feb. 2022 - Aug. 2022 [6 months]

📍 Palaiseau, 91120

- Characterization of prior distributions via learning of statistical and/or generative models for Bayesian inversion from a small database.

Python

Pytorch/CUDA

Generative AI

Bayesian Inversion

R&D Internship – *Deep Learning* for nebula removal in astronomical images

Astrophysics Laboratory of Bordeaux (LAB) & IMS Laboratory

📅 Jul. 2021 - Sep. 2021 [3 months]

📍 Bordeaux, 33000

- Training a regressor from noisy ground truths and transfer learning from synthetic datasets.

Python

Pytorch/CUDA

C/C++

Image Processing

Internship – FPGA implementation of an encryption algorithm

IMS Laboratory (Circuit Design/CSN)

📅 Jul. 2020 - Aug. 2020 [2 months]

📍 Bordeaux, 33000

- Implementation of the AES (Advanced Encryption Standard) algorithm for a secure RISC-V processor architecture on a Zynq 7020 SoC.

Verilog

VHDL

C/C++

Cryptography

SKILLS

- **Programming:** Python (advanced), C (advanced), C++ (intermediate)
- **Languages:**
 - French (native)
 - English (TOEIC 950 – fluent)
 - Spanish (B1 – intermediate)
 - Japanese (beginner)

OTHER

- **Robotics:**
 - Active member of Eirbot association (2019–2022), treasurer in 2021.
 - Participation in the French Robotics Cup:
 - Eirbot Team (2021)
 - Pokibot Team (2024)
- **Cybersecurity:** self-training on the TryHackMe platform (2024)
- **Sports:** climbing, running