

Lilian Welschinger

French (native), English (fluent)

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Background in mathematics, machine learning, and computer vision, with research interests in representation learning, physical dynamics, and world models.

EDUCATION

- **EPFL (École Polytechnique Fédérale de Lausanne)** Lausanne, Switzerland
PhD in Computer and Communication Sciences (EDIC) Starting September 2026
EDIC Fellowship recipient. Expected supervision by **Prof. Pascal Fua (CVLab)**.
- **ENS Paris-Saclay, Paris-Saclay University** Paris, France
MVA, Research Master's Program 2024 – 2025
GPA: 4.0/4.0. Highly selective program in mathematics and machine learning.
Relevant Coursework: Advanced and geometric deep learning, geometry processing, computer vision, computational statistics, convex optimisation.
- **ENSTA Paris, Polytechnic Institute of Paris (IP Paris)** Paris, France
MSc, Data Science, Optimisation & Probability 2022 – 2025
GPA: 4.0/4.0. Top 5% of cohort.
Relevant Coursework: Optimisation, probability, machine learning, geometry, computer science.
- **Claude Fauriel** Saint-Etienne, France
CPGE (Preparatory Classes in Maths and Physics, MPSI/MP)* 2020 – 2022
Preparatory training for top engineering schools, focused on advanced mathematics and problem-solving.

RESEARCH EXPERIENCE

- **INRIA Paris & ENS – WILLOW Research Group** Paris, France
Research Assistant — Generative Video Models & World Models May 2026 – August 2026
 - Working with **Prof. Shizhe Chen** on generative video models, self-supervised learning, and latent representations for physical dynamics and world modelling.
- **University College London** London, UK
Research Assistant — Geometric Deep Learning & PDEs on Surfaces April 2025 – November 2025
 - Collaborated with **Prof. Niloy J. Mitra** on learning-based PDE solvers for neural shape representations.
 - Resulted in the paper *Learning to Solve PDEs on Neural Shape Representations*, accepted at **CVPR 2026**.
- **Institut Camille Jordan (CNRS, University of Lyon 1)** Lyon, France
Research Assistant — Probability May 2024 – July 2024
 - Supervised by **Prof. Christophe Sabot**. Studied non-Markovian random walks and asymptotic probabilistic behaviour.

PUBLICATIONS

- **Lilian Welschinger**, Yilin Liu, Zican Wang, Niloy J. Mitra. *Learning to Solve PDEs on Neural Shape Representations*. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2026.

SKILLS

Languages: Python, C, C++, Julia, MATLAB Frameworks: PyTorch, scikit-learn

ACTIVITIES

- **Basketball (2008–2025):** Former high-level athlete, competing at national level before transitioning to an academic focus.
- **Climbing & Running:** Regular climbing practice and endurance training (trail and road running).
- **Mentoring:** Tutored undergraduate students in mathematics and programming.