

Mila Lüscher

Data Scientist and Physics graduate

[LinkedIn](#) [Github](#) [Website](#)



WORK EXPERIENCE

ZHAW, Institute of Data Analysis and Process Design

Research Assistant in Machine Learning for Complex Industrial Systems

Winterthur, Switzerland

15.08.2023 - Present

- Created an optimized cleaning schedule for photovoltaic power plants to reduce costs and maximize power production.
- Contributed to the development of an AI fault detection system to identify shading and tracker faults in photovoltaic plants.
- Conducted data cleaning and initial data exploration for battery performance data.
- Technologies used: Python, Tensorflow, Pytorch, Pandas, Git, Docker

University of Zurich, Faculty of Medicine

Support Crew

Zurich, Switzerland

01.09.2020 - 15.08.2023

- Managed reservations and operations of the skills lab rooms.
- Assisted with lectures and provided support during exam administration.
- Pixelated lecture podcasts for confidentiality.
- Assisted in the dissertation office.

University of Zurich

Teaching Assistant

Zurich, Switzerland

01.02.2020 - 31.08.2020

- Leading exercises classes in "Physics for Life Sciences"

EDUCATION

ETH Zurich

Master in Physics (90 ECTS)

Zurich, Switzerland

2021–2023

- Physics Coursework: General Relativity, Astrophysics II, Astrophysics III, Quantum Science with Superconducting Circuits, Computational Physics, Advanced Computational Methods in Astrophysics
- Additional Coursework: Machine Learning for the Sciences, Entrepreneurial Risks

University of Zurich

Mono Bachelor in Physics (180 ECTS)

Zurich, Switzerland

2017–2021

- Additional Coursework: Programming in C++, Data Analysis, Scientific Computing

CERTIFICATES

Codecademy

Front-End Engineer Course (115 hours)

Online

Spring 2024

- Coursework: Web Foundations, Improved Styling with CSS, Building Interactive Websites, Front-End Development

Udemy

Unreal Engine 5 C++ Developer: Learn C++ & Make Video Games

Online

Winter 2023

- In this course, I learned to develop games in Unreal Engine 5 using C++, focusing on object-oriented programming, game design principles, AI behavior programming, clean code practices, the use of Blueprint versus C++, and modern game development technologies and techniques.

PROJECTS & THESES

Minigame a Month - February 2024 Game Jam

Zurich, Switzerland

Revamp My Space

February 2024

- Participated in the Minigame A Month - February 2024 Jam with the theme “space,” where I developed an interior design puzzle game called “Revamp My Space”.
- Technologies used: Godot, GDScript, Aseprite

Master Thesis

Zurich, Switzerland

Convergence Maps With Denoising Diffusion Probabilistic Models

20.09.2022 - 27.03.2023

- Utilized deep learning techniques to generate weak-lensing dark matter density maps with a conditional denoising diffusion probabilistic model, and compared the results to those produced with a Wasserstein GAN.
- Technologies used: Python, Tensorflow, PyTorch, Bash, Slurm
- Supervisors: Prof. Dr. Alexandre Refregier and Dr. Tilman Tröster

Semester Project

Zurich, Switzerland

The Formation of Stellar Clusters at High Redshifts in Cosmological Simulations

01.09.2021 - 01.03.2022

- Analyzed globular clusters in high-redshift galaxies simulated with the GIZMO code and the FIRE-2 feedback model.
- Technologies used: Python, Bash, Slurm
- Supervisors: Prof. Dr. Robert Feldmann, Prof. Dr. Lavinia Heisenberg and Dr. Luigi Bassini

Bachelor Thesis

Zurich, Switzerland

The Impact of Supermassive Black Holes on Galaxy Morphology

01.09.2020 - 01.08.2021

- Simulated galaxies using the N-body, hydrodynamical code RAMSES on the CSCS supercomputer to test the impact of implementing supermassive black holes on galaxy morphology.
- Technologies used: Python, Fortran 90, Bash, Slurm
- Supervisors: Prof. Dr. Romain Teyssier and Dr. Michael Kretschmer

PERSONAL INFORMATION

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Address: Leutschenbachstrasse 77, 8050 Zürich

Nationality: Swiss, American

Languages: English (native), German (native)

TECHNICAL SKILLS

Python, HTML, CSS, JavaScript, React, Git, GDScript, LaTex, Bash, Slurm, Godot 4, Unreal Engine 5, C++ (basics), Swift (basics), Julia (basics)