

JULIETTE PARCHET

EPFL GRADUATE, MASTER IN DATA SCIENCE

📍 Lausanne, Switzerland | ☎ 078 448 65 75 | ✉ juliette.parchet@gmail.com |
🌐 www.linkedin.com/in/juliette-parchet | 🌐 jucifer06.github.io/juliette-parchet



PROFILE

Recent EPFL Data Science graduate with strong academic and industrial experience in machine learning, computer vision, and data-driven applications. At Schindler, I turned ML research into production-ready tools, improving accuracy and scalability. My projects range from VR game development to explainable AI and LLM fine-tuning, with results recognized in both academia and hackathons. I bring a mix of technical rigor, software engineering skills, and clear communication. I am currently looking for opportunities where I can apply my skills, keep learning, and contribute to meaningful real-world challenges.

TECHNICAL SKILLS

- **Programming:** Python, Java, C++, C#, C, SQL
- **Machine Learning & AI:** PyTorch, TensorFlow, Scikit-learn, Hugging Face; Computer Vision, NLP, LLMs, XAI
- **Data:** databases, statistics, Pandas, NumPy, data wrangling, Matplotlib, Seaborn; Apache Spark
- **Tools & Cloud:** Git, Docker, Microsoft Azure, Jupyter Notebook, VS Code, Linux

EDUCATION

Master in Data Science EPFL (Swiss Federal Institute of Technology), Lausanne Graduated with 5.17/6 GPA.	Sept. 2022 — Mars 2025
Bachelor in Communication Systems EPFL (Swiss Federal Institute of Technology), Lausanne Graduated with 4.91/6 GPA.	Sept. 2018 — July 2022
Teacher Training Program (Secondary Level II) HEP (Haute Ecole Pédagogique), Lausanne	Aug. 2023 — July 2024
Bilingual English Maturité (secondary diploma) Ecole Moser, Geneva Diploma obtained with honors and with a language Award (English, German, French)	Sept. 2015 — July 2018

WORK EXPERIENCES

6-months Computer Vision Internship, Schindler Group, Lausanne Developed computer vision solutions to reconstruct 3D building surfaces and simulate heat flow for renovation planning. <ul style="list-style-type: none">• Built and optimized end-to-end ML pipelines for 3D reconstruction using NeRF, SDF, and Plenoxel techniques.• Collected, processed, and prepared datasets for training, testing, and inference.• Refined models to improve accuracy and robustness, enabling simulation-ready outputs.• Deployed scalable workflows with Docker and Microsoft Azure, ensuring reproducibility.• Collaborated with stakeholders, presenting results and coordinating project milestones. Tools: Azure, Docker, Python, PyTorch, JAX, JAX-FEM, OpenCV, NumPy, Pandas, Scikit-learn, ParaView, Git, CI/CD, Agile.	Sept. 2024 — Feb. 2025
One-year Computer Science Teacher, High School, Nyon Taught coding and computational thinking, adapting complex computer science concepts for high school students. <ul style="list-style-type: none">• Designed Python projects and guided students on debugging, code structure, and algorithms.• Mentored students, fostering problem-solving and computational thinking.• Created lesson plans and assessments to track progress and engagement.• Learned to adapt teaching methods to diverse skill levels and learning styles. Tools: Python, Replit online IDE, Slides, LaTeX.	Aug. 2023 — July 2024
One-year PyGirls Tutoring, Boston Consulting Group, Online Led online Python sessions for groups of up to 5 beginner students, mentoring programming and problem-solving skills. <ul style="list-style-type: none">• Fostered engagement and collaborative problem-solving among participants.• Designed tailored learning materials and collaboratively optimized curriculum for online teaching. Tools: Python, Google Colab, Zoom, GitHub, collaborative teaching platforms.	Apr. 2022 — Apr. 2023

ACADEMIC PROJECTS

Virtual Reality Game Development, EPFL, Lausanne

Feb. 2024 — May 2024

Developed in a team a **cross-platform VR game** in Unity (C#) for immersive interaction and 3D spatial navigation.

- Built a gesture recognition system using 3D motion calibration, Fourier shape analysis, and real-time input tracking.
- Applied UX optimization techniques and design iteration to improve immersion and reduce cybersickness.
- Integrated Oculus SDK with Unity and collaborated via GitHub with agile methods. **Project recognized by TA for quality.**

Tools: C#, Unity, Oculus SDK, Fourier analysis, Agile/Scrum, Git, Visual Studio.

Actionability of Explainable AI (XAI), EPFL, Lausanne

Sept. 2023 — Jan. 2024

Explored how XAI can make neural network decisions more interpretable, trustworthy, and actionable in education.

- Analyzed large-scale explainer outputs and extracted meaningful statistics to support human decision-making.
- Designed visual and textual explanation formats (feature-based, model-driven, LLM-generated).
- Conducted user studies with stakeholders to evaluate trust, usability, and decision-making impact.
- Identified effective explanation strategies that improved interpretability and practical actionability of black-box models.

Tools: Python, NumPy, Pandas, Matplotlib, Seaborn, Jupyter, Git, LaTeX, VS Code.

Deep Image Translation via Diffusion Models, EPFL, Lausanne

Feb. 2023 — May 2023

Built an AI model under limited compute resources that reimagines photorealistic scenes as if abandoned for 100 years.

- Created synthetic training data using diffusion models and prompt engineering.
- Designed and optimized a Pix2Pix conditional GAN with a U-Net generator for paired image-to-image translation.
- Evaluated model on synthetic test data and unseen real photos, using visual inspection and CLIP-based metrics.

Tools: PyTorch, Prompt-to-Prompt, CLIP, NumPy, OpenCV, Pandas, Matplotlib, Google Colab (CUDA/CPU), Git, LaTeX.

LLM Fine-Tuning for Math QA, EPFL, Lausanne

Feb. 2023 — May 2023

Contributed to a team project fine-tuning large language models for domain-specific mathematical reasoning.

Developed an AI tutor that improves mathematical reasoning in QA tasks by fine-tuning large language models.

- Curated and annotated chain-of-thought datasets, as well as applied prompt engineering for math QA tasks.
- Fine-tuned GPT-2 and trained a reward model (DeBERTa-v2) with RLHF for reasoning evaluation.

Tools: Python, PyTorch, Hugging Face Transformers, GPT-2, DeBERTa-v2, NumPy, Scikit-learn, Google Colab, Git.

User Preference Modeling, EPFL, Lausanne

Sept. 2022 — Dec. 2022

Modeled user behavior and preferences from large raw beer-rating data to improve UX strategies.

- Performed large-scale data wrangling, clustering, collaborative filtering, and statistical analysis.
- Produced a **reproducible report** with interactive data visualization, developing strong teamwork and reporting skills.

Tools: Python, Pandas, Scikit-learn, Matplotlib, Seaborn, Git, VS Code.

LANGUAGE

English: C1 / Fluent (One-year exchange in UK)

French: C2 / Native

German: A2 / Basic

EXTRA-CURRICULAR ACTIVITIES

Hackathon, EPFL, Lausanne

Apr. 2025

Ranked 2nd at the **Lemanic Life Science Hackathon 2025** with the **Tumorscope Project**.

Prototyping and Gaming, Online

Indie video game development, see **projects**.

Art, Conservatoire Populaire de Musique, Geneva

Practice of classical piano for 8 years with regular training and recitals.

Sport, Swiss and International

Active participation in competitive sailing and badminton.

REFERENCES

Dr Malcolm Mielle at Schindler Group (contact information available upon request)