ANDREA MIELE

📍 Lausanne, Switzerland 📞 +33 7 71 10 13 05 🆔 French
✉ andrea.miele.pro@gmail.com 🔗 Linkedin/andrea-miele-

EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL)
Master of Science in Computer Science, specialization in Data Analytics

Sept. 2023 – Dec. 2025
Lausanne, Switzerland

- **Semester Project @ LIONS' Lab** (Continuous Diffusion models)
- **Semester Project @ Caglar Gulcehre's Lab** (Reinforcement Learning)
- **GPA:** *5.47/6.*
- **Courses:** Machine Learning, Mathematics of Data, Modern NLP, Computer Vision, Reinforcement Learning, Visual Intelligence, Data visualization

Bordeaux INP, Ecole Nationale Supérieure de Cognitique (ENSC)
Bachelor in Engineering Science

Sept. 2021 – Aug. 2023
Bordeaux, France

- **GPA:** 4/4. **Ranked 1st** among 81 students. Took a gap year. Promotion delegate.
- **Courses:** Advanced Programming, Signal and Systems, Database and Web programming, Inferential Statistics & Data Analysis

CPGE - Lycée Aux Lazaristes
MP-Informatique -Top 5 CPGE in France, Equivalent to 2 years of Bachelor in Mathematics, Physics.

Sept. 2018 – July 2021
Lyon, France

- **GPA:** 3.85/4.
- **Courses:** Algorithmic, Data Structures Analysis, Advanced Analysis, Linear Algebra, Algebra, Probabilities

EXPERIENCE

Master Thesis in Discrete Diffusion Models @EPFL, Caglar Gulcehre's Lab

Jul 2025 - now
Lausanne, Switzerland

- Working on Discrete Diffusion Language Models. Supervised by Justin Deschenaux

Student Researcher (Semester Project) @EPFL, LIONS' lab

Feb 2025 - Jun 2025
Lausanne, Switzerland

- Working on interpolation with DDPMs. Supervised by Dr Grigorios Chrysos

Research Intern in Multi Agent Reinforcement Learning @NAVER LABS Europe

Jul 2024 - Jan 2025
Grenoble, France

- Working on Hierarchical Multi Agent Reinforcement learning for fleet of robots.

Student Researcher in Reinforcement Learning (Semester Project) @EPFL, Caglar Gulcehre's Lab

Feb 2024 - Jul 2025
Lausanne, Switzerland

- Worked on principled value network training in deep actor-critic methods
- Co-authored a paper studying specific behaviors of TRPO and PPO in policy optimization in Deep RL.

Machine Learning Engineer Intern @F. Hoffmann-La Roche

Jun 2022 - Aug 2023
Basel, Switzerland

- **KPIs extraction using NLP** on NGOs' reports
- Support the integration of **AI/deep-learning applications within philanthropy**
- Advise on how **data driven** approaches could be applied towards existing philanthropic projects.
- **Project Management** e.g. Roche Continents 2022, 2023

PUBLICATION

Data, Auxiliary Losses, or Normalization Layers for Plasticity? A case study with PPO on Atari
*Pyatko D., **Miele A.**, Moalla S., Gulcehre C. (EPFL)*

Submitted at EWRL
Link

Swizz: One-Liner Figures, LaTeX Tables, and Flexible Layouts for Scientific Papers
Quaedvlieg L., **Miele A.*** (co–first author), Gulcehre C. (EPFL)*

ICML 2025 CODEML Workshop
Link

No Representation, No Trust: Connecting Representation, Collapse, and Trust Issues in PPO
*Moalla S.[1], **Miele A.**[1], Pascanu R.[2], Gulcehre C.[1] ([1]EPFL, [2]Google DeepMind)*

NeurIPS 2024 (Poster)
Link

SELECTED PROJECTS

Evaluating Generative Models for Vector Graphics with Interpretable latent states.
@EPFL, LIONS's Lab

2023
Lausanne, Switzerland

- * Explores the potential of deep learning in enhancing the aesthetic quality of SVG drawings.
- * Demonstrates the potential of Transformer architectures for beautification tasks and also the **challenge to generalize** across diverse drawing styles. (GitHub)

Cardiovascular Diseases Classifier   2023
* Prediction on whether or not a person has a risk of developing MICHD, from scratch in Python.(GitHub)
* **Top 5%** on AICrowd (ML Prediction competition) implementing over-under sampling methods and Anova for feature selection.

FER   2023
* Constructed TensorFlow-based machine learning model **(Computer Vision)** to predict human emotion by receiving an input image. (GitHub)
* I implemented several methods: CNN, SVM and KNN. I obtained an accuracy of 66% using CNN.

NNNET   2022
* Implementation a **Neural Network C# library** from scratch, for educational and curiosity purposes. (GitHub).

TECHNICAL SKILLS AND OTHER INFORMATION

Reviewing : ICLR 2025, NeurIPS 2024 Workshop Pluralistic-Alignment

Programming: Python (Pandas, PyTorch, NumPy, Scikit-learn, etc.), C# , CAML , Latex , R , Javascript

Languages : French (Native), English (C1, TOEFL 102/120), Italian (C1), German (A1)

Research Interests : Discrete Diffusion Models, Reinforcement Learning, Foundation Models

Personal interests : Judo (Former High Level sportsman for Bordeaux University. Vice Champion of France 2018.), Photography (Amateur photographer since 2017.)