

Corentin Léger - AI Research Engineer

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Research Engineer with a strong foundation in Machine Learning and Software development with particular interest in Reinforcement Learning, Large Language Models and multi-agent systems.

SKILLS

- **Programming:** Python, Git, Bash, Web Development, SQL, Cloud Computing, CI/CD
- **Frameworks:** Jax, Numpy, PyTorch, TensorFlow, Scikit Learn, Optuna, Hydra, Pandas, Flask, Gym, pytest

EXPERIENCE

- **Huawei** Paris, France
Research Engineer, Noah's Ark Lab Mar 2025 - Present
 - Apply LLM agents with Machine Learning methods to automate Data Science pipelines. Focus on feature engineering and data preprocessing for tabular datasets to improve performance on Kaggle challenges.
- **Inria** Bordeaux, France
Research Engineer, Flowers Team Dec 2023 - Jan 2025
 - Co-developed the Open-Source LLM-Culture software to simulate and analyze text evolution in LLM-based multi-agent systems [2]. The system models agent interactions based on neighbors outputs, task, and personality across generations. Built NLP (SpaCy, NLTK) and data visualization tools to evaluate text properties, as well as a web interface.
 - Contributed to a paper (ICLR 2025) to explore biases and attractors in multi-turn LLM interactions [1].
 - Co-Developed a Vivarium, a multi-agent simulator built in Jax for AI research and teaching, achieving real-time interaction with Web or Jupyter notebook clients. Supervised an intern and used the simulator in a Master's course at UPF Barcelona.
- **Inria** Bordeaux, France
AI Research Intern, Flowers and Mnemosyne Teams May 2023 - Nov 2023
 - Developed ER-MRL, a Meta-Reinforcement Learning method that optimizes RNNs with Evolutionary Strategies, in order to improve Deep RL agents' adaptability in new environments [3] (Sb3, Gym, Optuna)
 - Created a tutorial for parallelized hyper parameter search in the open source ReservoirPy library (500+ stars).
- **Connectiv-IT** Bordeaux, France
Data Scientist Intern May 2022 - Aug 2022
 - Applied Pandas and Scikit-Learn to preprocess helicopter maintenance data, performing cleaning, outlier detection and imputation. Used statistical analysis (SciPy) and clustering (Scikit-Learn) to identify key trends in maintenance data

PUBLICATIONS

- [1] When LLMs Play the Telephone Game: Perez, J., Kovač, G., Léger, C., Colas, C., Molinaro, G., Derex, M., Oudeyer, P. Y., Moulin-Frier, C. (2024). In International Conference on Learning Representations (ICLR 2025)
- [2] Cultural evolution in populations of Large Language Models: Perez, J., Léger, C., Ovando-Tellez, M., Foulon, C., Dussauld, J., Oudeyer, P. Y., Moulin-Frier, C. (2024). Arxiv preprint
- [3] Evolving Reservoirs for Meta Reinforcement Learning: *Léger, C., *Hamon, G., Nisioti, E., Hinaut, X., Moulin-Frier, C. (2024). In International Conference on the Applications of Evolutionary Computation (part of EvoStar 2024)
- [4] Early Empirical Results on Reinforcement Symbolic Learning: Radji, W., Léger, C., Bardisbanian, L. (2023). Research report published in HAL Inria

SELECTED PROJECTS

- Open Source Contributions: Contributed to the Stable-Baselines3 RL library (9k+ stars). Helped creating an app to interpret RL policies, and benchmarked PPO and Policy Gradient algorithms with KANs.
- Built a tool to optimize multi-LLM agent systems on math tasks using evolutionary strategies during a 2-day hackathon. Matched GPT-4 performance with a system of three GPT-3.5 agents.

EDUCATION

- **Ecole Nationale Supérieure de Cognitique** Bordeaux, France
Master of Science in Computer and Cognitive Sciences; GPA: 4.00 Sept. 2020 – Sept. 2023
Activities: Bronze medal at French University Volley-Ball Championship 2023
- **Cycle Préparatoire de Bordeaux (CPBx)** Bordeaux, France
Bachelor of Science in Mathematics and Physics, Sport-Study contract with ASI Volley-ball Sept. 2018 – Jun. 2020