Corentin Léger - AI Research Engineer
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Research Engineer with a strong foundation in Machine Learning and Software development, particularly interested in Reinforcement Learning and Large Language Models. I am looking for a challenging PhD or engineering position related to one of these fields.

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, Noah's Ark** — Paris, France
  Research Engineer — *Mar 2025 - Present*
  - Conduct research in Automated Data Science by integrating LLM agents with AutoML tools. Focus on automating feature engineering and data preprocessing for tabular datasets to improve performance of ML models 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.
  - Co-authored 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-RL method to optimize 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

Complete list of 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 (blog post) 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*