

Corentin Léger - AI Research Engineer

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AI Research Engineer with a focus on Reinforcement Learning, Large Language Models, and Software Engineering. Seeking to contribute to cutting-edge research, development, or engineering in innovative projects across the AI field.

Skills

Programming: Python, Git, Bash, Web Development, SQL, Cloud Computing (Slurm), Network, CI/CD

Python frameworks: Numpy, Jax, PyTorch, TensorFlow, Scikit Learn, Optuna, Pandas, Flask, Gym, Sb3, pytest, nltk

Experiences

INRIA

Bordeaux, France

(Jan. 2024 - Present)

AI Research Engineer - Flowers team

- Developed the [LLM-Culture](#) software to simulate text evolution in LLM-based multi-agent systems. The system models agent interactions based on neighbors outputs, task, and personality across generations. Created tools for text dynamics analysis and built a user-friendly web interface. Co-authored two [papers](#) on this topic : “Cultural Evolution in Populations of Large Language Models” (preprint) and “When LLMs Play the Telephone Game” (under review).
 - Developed a [Vivarium](#), a multi-agent particle simulator in Jax with realistic physics, for AI research and teaching. It enables real-time interaction between Jax-based simulations hosted on a server, and web or Jupyter notebook clients.
- Skills: Multi-agents simulations - Large Language Models - Jax - Software engineering - Natural Language Processing

AI Research Intern - Flowers & Mnemosyne teams

(May. 2023 - Nov. 2023)

- Presented the [paper](#) “Evolving Reservoir for Meta-Reinforcement Learning” at **EvoStar 2024**, exploring how evolved RNNs can improve Deep RL agents' adaptability. Implemented a parallelized experiment pipeline, testing agents on partially observable and 3D locomotion tasks, and evaluated their ability to generalize to unknown environments: [code](#).
 - Created a tutorial for parallelized hyper parameter search in the **ReservoirPy** machine learning library (400+ ☆)
- Skills: Reinforcement Learning - Recurrent Neural Networks (RNNs) - Parallel Processing - Evolutionary Algorithms

Connectiv-IT

Bordeaux, France

(May. 2022 - Aug. 2022)

Data Science Intern

- Preprocessed helicopter maintenance data using machine learning techniques (cleaning, outlier removal, imputation) for predictive maintenance. Performed statistical analysis, clustering, and data visualization to uncover insights.
- Skills: Machine Learning - Data processing and visualization - Pandas - Scikit Learn - SciPy

Projects

Open Source Contributions

- Created a [Hugging Face app](#) in **KanRL** (200+ ☆) to interpret RL policies using Kolmogorov-Arnold Networks (KANs). Led experiments comparing **Policy Gradient** and **PPO** performance with KANs versus classical neural networks.
- Fixed several issues in the **Stable-Baselines3** (8000+ ☆) and **Stable-Baselines3-Contrib** RL Libraries.

Ebiose

- Participated in a two-day Hackathon where we built a tool to optimize multi-LLM agents systems on math tasks using evolutionary algorithms ([blog](#)). The project led to the creation of a start-up by two members of the team.

Symbolic Reinforcement Learning

- Published a [paper](#) on Symbolic Reinforcement Learning in HAL Inria. The research explored enhancing RL agents' learning and explainability by integrating symbolic data with the Q-Learning algorithm.

Education

Master of Science, Computer & Cognitive sciences

Bordeaux, France

ENSC - Bordeaux INP (GPA 4.0)

(Sep. 2020 - Sep. 2023)

- Exchange programs at Laval University (Data Science) and at ENSEIRB-MATMECA (AI)

Bachelor of Science, Mathematics & Physics

Bordeaux, France

CPBx - Bordeaux University

(Sep. 2018 - Jul. 2020)

- French integrated preparatory class in sport-study program (Volley-Ball), Mathematics and Physics