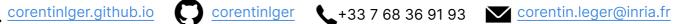
Corentin Léger - Al Research Engineer









Al 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 Al field.

Skills

Programming: Python, Git, Bash, Web Development, SQL, Cloud Computing (Slurm), Network (Socket, grpc) Python frameworks: Numpy, Jax, PyTorch, Scikit-Learn, SciPy, Optuna, Pandas, Flask, Gymnasium, Sb3, pytest

Experiences

INRIA Bordeaux, France (Jan. 2024 - Present)

Al 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 neighbor output, task, and personality across generations. Created tools for text dynamic analysis and built a user-friendly web interface. Co-authored two papers: "Cultural Evolution in Populations of Large Language Models" and "When LLMs Play the Telephone Game" (under review).
- Developed a multi-agent particle simulator in Jax with realistic physics, for AI research and teaching. It enables realtime interaction between Jax-based simulations hosted on a server, and web or Jupyter notebook clients. Skills: Multi-agents simulations - Software engineering - Jax - LLMs - Network programming

Al Research Intern - Flowers & Mnemosyne teams

Bordeaux, France (Mar. 2023 - Oct. 2023)

- Presented "Evolving Reservoir for Meta-Reinforcement Learning" at EvoStar 2024, exploring how evolved Reservoirs can improve Deep RL agents' adaptability. Implemented experiments on partially observable and 3D locomotion tasks, and tested agent generalization in unknown environments: paper - code.
- Created a tutorial for parallelized hyper parameter search in the ReservoirPy machine learning library (400 ☆) Skills: Meta-Reinforcement Learning - Evolutionary Algorithms - Reservoir Computing - Parallel Processing

Connectiv-IT

Bordeaux, France (May. 2022 - Aug. 2022)

Data Science Intern

• Conducted R&D to optimize maintenance schedules for a fleet of helicopters. Implemented an outlier detection model and missing values simulation model (Scikit-Learn) with unsupervised and supervised learning. Skills: Data processing and visualization - Unsupervised Learning - Supervised Learning

Projects

Open Source Contributions

· Contributed to the KanRL project by helping implement a Hugging Face app to interpret trained RL policies using Kolmogorov-Arnold Networks (KANs). Led experiments comparing the performance of Policy Gradient algorithm and PPO with KANs versus classical neural networks. Fixed several bugs in the <u>Stable-Baselines3</u> RL Library (8000+ ☆).

Ebiose

 Participated in a two-day Hackathon where we built a tool to optimize multi-LLM agent systems on math tasks using Autogen and EvoPrompt frameworks (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 Q-Learning algorithms.

Education

Master of Science, Computer & Cognitive sciences

Bordeaux, France (Sep. 2020 - Sep. 2023)

ENSC - Bordeaux INP

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

Bachelor of Science, Mathematics & Physics

CPBx - Bordeaux University

(Sep. 2018 - Jul. 2020)

Bordeaux, France

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