

TIMOTHÉ BOULET

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EXPERIENCE

- **INRIA (FLOWERS team): PhD on LLM for Controller Program Generation** Bordeaux, France
PhD Student *Dec 2024 - Present*
PhD on "LLM code generation for artificial agent control in simulated environments". Using Large Language Models code generation capabilities to generate controller capable of solving embodied environments. Implementation of SWE agents.
- **INRIA (FLOWERS team): Simulation of Ecosystems of Adaptive Neural Agents** Bordeaux, France
Research Intern *May 2024 - Oct 2024*
Studied the evolutionary dynamics of behavior emergence in continuous ecosystems of neural agents.
- **CentraleSupélec: Research Project on Leagues in Multi-Agent RL** Paris, France
Student Researcher, supervised by Google DeepMind *Oct 2023 - April 2024*
Research project supervised by Paul Muller (Google DeepMind). Studied population-based methods to accelerate the convergence of no-regret dynamics such as FoReL toward Nash equilibria. [Code] [Report]
- **Ubisoft La Forge: Machine Learning applied to Video Games** Montréal, Canada
Research and Development Intern *Feb 2023 - July 2023*
Implemented RL algorithms on the Ubisoft RL framework. Deep Supervised Learning on time-series to mimic human behaviors for video game bots.
- **InstaDeep: Marine Transportation Optimization with Multi-Agent methods** Paris, France
Research Intern *Aug 2022 - Jan 2023*
Linear problem formalization and implementation of Operation Research methods on the ECR problem. Training of an RL agent for optimization in maritime Network Design. [Medium article]

EDUCATION

- **MVA, ENS Paris Saclay** Paris, France
MSc in Applied Mathematics for Machine Learning *Sep 2023 - April 2024*
8 courses validated, among which : Probabilistic Graphical Models, Graphs in Machine Learning, (Applied) Deep Learning, Bayesian machine learning, Learning and generation by probability sampling
Grade: 15.9/20
- **CentraleSupélec** Paris, France
MSc in Engineering, specialized in Computer Science *Sep 2020 - April 2024*
Relevant courses: mathematics, statistics, algorithmics, Machine Learning, AI, Deep Learning, RL, NLP, Graphes
GPA: 4.0
- **Bachelor (obtained in double-degree), Université Paris-Saclay** Paris, France
Bachelor of mathematics *Sep 2020 - June 2021*
Mathematics degree obtained within a double degree during the first year of the engineering school at CentraleSupélec
Courses: Differential Equations, Probability, Algebra
- **CPGE, Lycée Henri Loritz, PCSI-PSI*** Nancy, France
Classes Préparatoires aux Grandes Écoles *Sep 2018 - June 2020*
Two years of intensive preparation in mathematics and physics at Lycée Henri Loritz in order to enter the French Grandes Écoles.
Courses: Engineering sciences, mathematics, physics. Results: integration of CentraleSupélec, Top 2 French Engineer school.

PUBLICATIONS

- **Boulet, T.,** Hinaut, X., & Moulin-Frier, C. (2025). *Software Engineering Agents for Embodied Controller Generation: A Study in Minigrid Environments*. (Efficient Reasoning Workshop, NeurIPS 2025)
- Taylor-Davies, M., Hamon, G., **Boulet, T.,** & Moulin-Frier, C. (2025). *Emergent kin selection of altruistic feeding via non-episodic neuroevolution*. (International Conference on the Applications of Evolutionary Computation — part of EvoStar 2025)

HONORS AND AWARDS

- Co-author on a paper awarded **Best Paper** at EvoApps 2025 and **Best Student Paper** at EvoStar 2025 :
Emergent kin selection of altruistic feeding via non-episodic neuroevolution.
- CentraleSupélec 2024 Prize for Community Service and Academic Excellence — awarded to 9 recipients among 4700 students, for my involvement in the student community and my Reinforcement Learning training courses.
- Winner of the Machine Learning Kaggle Competition at CentraleSupélec (2022) — 1st place out of 76 teams.

TEACHING

- **Reinforcement Learning:** Courses and practical work on Reinforcement Learning at Ecole Nationale Supérieure de Cognitique (ENSC), 2025 and 2026.
- **Computer Science project supervision:** Supervising a group of students at Université de Bordeaux for a CS project, 2025.
- **Reinforcement Learning Training:** Public courses as part of "Automatants", the CentraleSupélec AI student association (2022–2024).

SKILLS

- **Programming Frameworks:** Deep Learning (PyTorch, JAX), scikit-learn, OpenAI Gym, Object-Oriented Programming, LLM frameworks (e.g., SGlang, vLLM)
- **Tools:** Git, SQL, LaTeX, Streamlit, OpenCV
- **Languages:** English (fluent), French (native)

PERSONAL PROJECTS

- **Alan Code agent:** An open-source python coding agent. Usable in CLI, GUI, or as a Python library to build upon.
- **Pytorch Deep RL Framework:** Implementation of many Deep RL algorithms (DQN, DDPG, PPO, A2C, ...) in pytorch, with an environment agnostic framework.
- **AI Python packages:** Implementation of classical AI methods to solve various problems: graph search, multi-adversarial games, optimization problem. Formalization of these problems in the form of a python interface. Many other projects on my GitHub main page.
- **Gridworld RL Environment:** A small gridworld environment as well as the agent framework and some algorithms. Objective : let students implement their own RL algorithms on an environment during supervised practical work sessions.
- **Development of an email bot for the CentraleSupélec campus IT support:** As a member of the CentraleSupélec computer science association, ViaRézo, development of a Telegram bot to store and allocate mails for the support team.