ROGER CREUS CASTANYER

PHD STUDENT — Mila · Université de Montréal

INFORMATION

📱 438-528-9561

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🌐 https://roger-creus.github.io

📍 Montreal, Quebec, Canada

📅 Expected PhD Graduation: Aug. 2028

💻 Python / Pytorch / JAX / C++ / C#

EDUCATION

Research MSc in Computer Science & AI

Mila Quebec AI Institute and University of Montreal

Sep 2022 - Sep 2024

Member of the Robotics and Embodied AI lab (REAL) at Mila Quebec AI Institute and the University of Montreal. Supervised by Professor Glen Berseth.

GPA: 4.225/4.3

BSc with Honours in Data Science and Engineering

Polytechnic University of Catalonia

Sep. 2017 - June. 2021

GPA: 7.18/10.0

LANGUAGES

🇬🇧 English

🇪🇸 Spanish

🇦🇩 Catalan

🇫🇷 French

PROFILE

I am from Barcelona (Spain) and live in Montreal (Canada) as I pursue my PhD studies at Mila Quebec AI Institute and the University of Montreal, supervised by Professors *Pablo Samuel Castro* and *Glen Berseth*.

My research focuses on developing **intelligent agentic systems** that continually learn and develop skills to tackle increasingly complex problems.

Interests: AI Agents, Reinforcement Learning, Foundation Models, LLM/VLMs.

WORK EXPERIENCE

Research Intern at Vmax
Jan. 2026 - June 2026

San Francisco, CA, US

- LLM post-training with RL, SFT and on-policy distillation for coding agents
- Synthetic data generation at scale with LLMs for SWE-agents

Teaching Assistant - University of Montreal
Jan. 2024 - May 2024

Montreal, QC, Canada

- Teaching assistant for the graduate-level course on Robot Learning (IFT 6163) at the University of Montreal.

Research Intern at Ubisoft LaForge
Jun. 2023 - Sep. 2023

Montreal, QC, Canada

- Research on improving the convergence of intrinsic exploration algorithms with deep reinforcement learning.
- Integration of AI agents in 3D games for human-like navigation in complex environments.

Junior Data Scientist at Hewlett Packard Inc
Feb. 2021 - Aug. 2022

Barcelona, Spain

- Design and implementation of a massive optimization framework for automated optimal budget allocation.
- Deployment of an interactive web application based on a Flask server (back-end), HTML + Bulma CSS + JavaScript (front-end), and PostgreSQL (database) for stakeholders to interact with the trained machine learning models.

WORK EXPERIENCE

Research Assistant at Universitat Politecnica de Catalunya

Barcelona, Spain   Jun. 2021 - Oct. 2021

- Participation in research in software engineering for artificial intelligence in the GESSI research group at UPC sponsored by a research scholarship provided by Banco Santander.

- Implementation and deployment of convolutional and recurrent neural networks in mobile applications to solve vision and language-based problems.

PUBLICATIONS

ARM-FM: Automated Reward Machines via Foundation Models for Compositional Reinforcement Learning. **Roger Creus Castanyer**, Faisal Mohamed, Pablo Samuel Castro, Cyrus Neary, Glen Berseth. International Conference on Learning Representations (ICLR 2026).

Stable Gradients for Stable Learning at Scale in Deep Reinforcement Learning. **Roger Creus Castanyer**, Obando, J., Lu Li, Pierre-Luc Bacon, Glen Berseth, Aaron Courville, Pablo S. Castro. (NeurIPS 2025 **Spotlight**)

What Matters for Maximizing Data Reuse In Value-based Deep Reinforcement Learning. **Roger Creus Castanyer**, Glen Berseth, Pablo Samuel Castro. Finding the Frame workshop at Reinforcement Learning Conference (RLC 2025)

Improving Intrinsic Exploration by Creating Stationary Objectives. **Roger Creus Castanyer**, Joshua Romoff, Glen Berseth. International Conference on Learning Representations (ICLR 2024).

Surprise-Adaptive Intrinsic Motivation for Unsupervised Reinforcement Learning. Adriana Hugessen (*), **Roger Creus Castanyer (*)**, Faisal Mohamed (*), Glen Berseth. Reinforcement Learning Conference 2024 and Intrinsically-Motivated and Open-Ended Learning Workshop at NeurIPS2023 (Oral Presentation).

RLeXplore: Accelerating Research in Intrinsically-Motivated Reinforcement Learning. Mingqi Yuan (*), **Roger Creus Castanyer (*)**, Bo Li, X. Jin, Glen Berseth, W. Zeng. Transactions on Machine Learning Research 2024

Unsupervised Skill-Discovery and Skill-Learning in Minecraft. Juanjo Nieto, **Roger Creus Castanyer***, Xavier Giro-i-Nieto*. Unsupervised Reinforcement Learning Workshop at ICML 2021.

Integration of Convolutional Neural Networks in Mobile Applications. **Roger Creus Castanyer**, Xavier Franch, Silverio Martinez. Workshop on AI Engineering at ICSE 2021.

Which Design Decisions in AI-enabled Mobile Applications Contribute to Greener AI? **Roger Creus Castanyer**, Xavier Franch, Silverio Martinez. Empirical Software Engineering Journal (EMSE 2021).

SCHOLARSHIPS

AI Research Scholarship -- PhD 2025 -- University of Montreal

Academic Excellence Scholarship -- PhD 2024 -- University of Montreal

End-of-studies Scholarship -- Research MSc 2023 -- University of Montreal

Introduction to Research Scholarship -- INIREC 2021 -- Banco Santander, Spain.

OTHER ACHIEVEMENTS

Contributor to Open-Source AI Software
I have contributed to widely used open-source repositories for AI tooling. Some examples are CleanRL, RLLTE, RLeXplore, Wave-Defense RL, Blokus RL, Lux AI competition, and xgenius-cluster-management.

Content Creator in Artificial Intelligence
I run a YouTube channel (@whoami_AI) where I upload educational content in AI. Some of my videos have reached 30 thousand views. I do it out of passion and intending to inspire others.

Basketball Player – Fundació Privada Sagrada Familia Claror | Sep. 2008 - Jun. 2020
The highest-ranked league I played was the First Catalan League in the seasons 2017-2018 and 2018-2019.

Basketball Coach – Fundació Privada Sagrada Familia Claror | Sep. 2014 - Jun. 2022
I coached and educated players aged from 8 to 16 years old. My teams participated in multiple tournaments and generally competed at a high level.