

# ROGER CREUS CASTANYER

PHD STUDENT

## INFORMATION

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- 🌐 <https://roger-creus.github.io>
- 📍 7074 Av. Christophe Colomb, Montreal, H2S 2H5, QC, 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 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 *understanding* and *improving* the learning dynamics of AI agents trained with deep reinforcement learning. My ultimate goal is to develop generally-capable agents that can continually learn and develop skills to tackle increasingly complex tasks.

**Interests:** Reinforcement Learning, Representation Learning, Exploration, Foundation Models, Skill-Learning, Distributed Training, LLM/VLMs.

## WORK EXPERIENCE

### Teaching Assistant - University of Montreal

Montreal, Canada

Jan. 2024 - May 2024

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

### Research Intern at Ubisoft LaForge

Montreal, Canada

Jun. 2023 - Aug. 2023

- 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

Barcelona, Spain

Feb. 2021 - Aug. 2022

- 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.

### Research Intern 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

*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. RL Beyond Rewards Workshop at the Reinforcement Learning Conference 2024.

*Which Design Decisions in AI-enabled Mobile Applications Contribute to Greener AI?* **Roger Creus Castanyer**, Silverio Martínez-Fernández, Xavier Franch. Empirical Software Engineering Journal 2022.

*Integration of Convolutional Neural Networks in Mobile Applications.* **Roger Creus Castanyer**, Silverio Martínez-Fernández, Xavier Franch. 2021 IEEE/ACM 1st Workshop on AI Engineering-Software Engineering for AI (ICSE 2021)

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

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