

SAMUEL OLIVEIRA

SAMUELCCOLIVEIRA@GMAIL.COM | [PERSONAL WEBSITE](#) | [GITHUB](#)

RESEARCH INTERESTS

I am interested in creating intelligent agents that can learn continually throughout their entire lifetime, much like animals and humans do. To this end, I wish to understand how to ensure artificial systems remain able to acquire new knowledge without forgetting previous their past, in particular under resource constraints.

EDUCATION

University of Alberta

Sept 2025 – Sept 2030

PhD Computing Science

- Advisor: Rupam Mahmood. Part of RLAI Group (Rich Sutton) and Amii (Alberta Machine Intelligence Institute).
- Tentative Research Title: Continual Reinforcement Learning at Scale.
- GPA: 4.0. Courses: Reinforcement Learning II (A+), Deep Reinforcement Learning (A+), Robot Learning (A+).

University College London

Sept 2023 – Sept 2024

MSc Machine Learning

- Classification: Distinction (equivalent to 4.0 GPA).
- Courses include: RL, Multi-Agent AI, Probabilistic & Unsupervised Learning (Gatsby Unit PhD course).
- MSc Thesis: “Inverse RL using Generative Planning Models in Trajectory Space” (Ilija Bogunovic’s Group).

Imperial College London

Sept 2019 – June 2023

MEng Biomedical Engineering (Computational Bioengineering Specialization)

- Dean’s List (top 10% of cohort) in 3rd and 4th years. Classification: First Class Honours (equivalent to 4.0 GPA).
- Courses Include: Optimization, Computational Neuroscience, Information Theory, Artificial Intelligence.
- Undergraduate Thesis: “EczemaPF: An online learning approach to real-time eczema severity prediction”.

RESEARCH AND WORK EXPERIENCE

Applied Machine Learning Consultant

March 2025 - May 2025

Alberta Machine Intelligence Institute (Amii)

Edmonton, AB

- Formulated a business challenge as a ML problem, and evaluated solution feasibility, risks, and readiness.
- Surveyed relevant literature and communicated findings through technical reports and stakeholder presentations.

MSc Thesis Student and Research Assistant

May 2024 – June 2025

Bogunovic Group, University College London

London, UK

- Developed a novel Inverse Reinforcement Learning (IRL) framework using diffusion models.
- Benchmarked the framework against state of the art IRL methods in multiple Gymnasium environments.

Undergraduate Thesis Student and Research Assistant

Oct 2022 – Sept 2023

Tanaka Group, Imperial College London

London, UK

- Led the implementation of a Sequential Monte-Carlo framework to predict eczema severity in under 1 second.
- Created a Python package based on the framework for integration into clinical tools.

Software Engineering Intern

June 2022 – Aug 2022

Goldman Sachs

Birmingham, UK

- Implemented a performance testing framework (Python, AWS, Terraform) for a web app hosted on AWS.
- Led the integration of the performance testing framework into QA testing.
- Contributed 10K+ lines of code to an established codebase via Git. Presented my work virtually to 150 colleagues.

TEACHING, OUTREACH & LEADERSHIP

Graduate Teaching Assistant at University of Alberta

- CMPUT 655 - Reinforcement Learning I Sep 2026 - Dec 2026
- CMPUT 355 - AI Algorithms for Games and Puzzles Jan 2026 - April 2026
- CMPUT 261 - Introduction to Artificial Intelligence Sept 2025 - Dec 2025

Outreach and Recruitment Ambassador at Imperial College London

Nov 2022 - Jun 2023

- Tutored 8 high school students in mathematics. Created and taught Python workshops to 20 students.
- Mentored 3 students through the university application process. Represented Imperial at recruitment events.

Student Representative at Domingos Sequeira (High school)

Sep 2016 - June 2018

- Held fortnightly meetings with the teaching staff to discuss concerns raised by students.

AWARDS

Jeffrey R Sampson Memorial Graduate Prize: prize for highest graduate GPA. University of Alberta
Graduate Teaching Award: for exceptional contributions in teaching at UAlberta. University of Alberta
Alberta Graduate Excellence Scholarship: 12 000 CAD. Government of Alberta, Canada
Computing Science Graduate Recruitment Scholarship: 5000 CAD. University of Alberta
Dean's List (4th year): Top 10 % of cohort (150 students) in 4th year. Imperial College London
Dean's List (3rd year): Top 10 % of cohort (150 students) in 3rd year. Imperial College London
Honours Board: Top 5 students at the end of high school. Domingos Sequeira High School

PUBLICATIONS

Undergoing Publication

1. Ariane Duverdier*, **Samuel Oliveira***, Pierre Le Floch, Robert Moss, Guillem Hurault, Reiko J. Tanaka. EczemaPF: A fast and scalable computational framework for real-time forecasting of eczema severity. *Computer Methods and Programs in Biomedicine*.

TALKS

Rethinking the Suitability of RL Algorithms under Practical Transfer Constraints August 2026
Reinforcement Learning Conference 2026 Montreal, QC
Inverse Reinforcement Learning using Diffusion Models July 2025
Eastern European Machine Learning Summer School (Poster) Sarajevo, Bosnia and Herzegovina

SERVICE

Reviewing

- 19th European Workshop in Reinforcement Learning 2026
- ICML - International Conference on Machine Learning 2026
- RLC - Reinforcement Learning Conference. 2025
- TMLR - Transactions on Machine Learning Research. 2025

Volunteering

- Aston Villa Foundation. July 2022. Birmingham, UK.
- Covid-19 Vaccination Centre Steward. June 2021 - August 2021. Leiria, Portugal.

PERSONAL PROJECTS

Automated Research Assistant | *Python, PyTorch, Hugging Face*

- Created a LLM-based research assistant system, capable of scraping the arXiv API for new papers and generate new research ideas based on the most recent papers.
- Integrated the model into a simple Streamlit web app.

Multi-Task Multi-Agent RL using Shared Distilled Policies | *Python, PyTorch*

- Proposed and implemented an extension of DeepMind's Distral framework to a multi-agent setting.

Impact of the pre-training data distribution on the performance of MAEs | *Python, PyTorch, SQL*.

- Built a pipeline to pre-train and finetune Masked Autoencoders for different pre-training data distributions.
- Evaluated the downstream semantic segmentation performance of Masked Autoencoders.

Language Model and Autoencoder-based Clinical Decision Support System | *Python, PyTorch*.

- Developed a multi-modal pipeline to output diagnostic reports for chest X-rays.
- Collaborated with Third Eye Intelligence, an Imperial College start-up.

SKILLS

Coding Languages: Python, C++, SQL (PostgreSQL), MATLAB.

Developer Tools: HPC systems (Slurm), Git, AWS, Apptainer/Singularity, Terraform, Linux-based systems.

Machine Learning Tools: PyTorch, JAX, Gym/Gymnasium, MuJoCo, StableBaselines, NumPy.

Languages: Portuguese (Native), English (Bilingual), Spanish (B1), French (A2).