

# Filippos Christianos

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## Summary

Research Scientist at Huawei, working on LLMs and Multi-Agent Reinforcement Learning. Co-author of the Multi-Agent Reinforcement Learning textbook published by *The MIT Press*. Published in *NeurIPS*, *ICML*, and other top-tier conferences and journals (950+ citations, h-index=9).

## Experience

- Research Scientist**, Huawei – London, UK 2023 – present
- Led a team project to develop an LLM-powered modular agent framework capable of interacting and learning from various environments (e.g., operating systems or web browsers). *Fine-tuned LLMs* (with PyTorch and HuggingFace) using *SFT* and *RL* to improve the agent's performance in those environments.
  - Designed and trained a *Decision Transformer* to solve the PCB placement problem on real-world data.
- Research Scientist, Intern**, NVIDIA – San Francisco, California (remote) May – Dec. 2022
- Developed and published (*ICRA 2023*) a novel method for generating plausible *autonomous vehicle (AV)* trajectories in occluded spaces using *variational autoencoders*.
- Research Assistant**, ENECIA – Athens, Greece 2017 – 2018
- Collaborated with UC Berkeley researchers in a startup environment to create power-consumption prediction models, employing *Gaussian processes*, *ARIMA*, and *similarity-based* methods.

## Education

- University of Edinburgh**, PhD in Multi-Agent Reinforcement Learning 2019 – 2023
- Used reinforcement learning algorithms (e.g., *PPO*, *DQN*, *SAC*) to develop novel multi-agent methods. Published as first author in *2x NeurIPS*, *ICML*, and *TMLR*. Supervised by Dr Stefano Albrecht and examined by Dr Frans Oliehoek.
  - Was the *Teaching Assistant* of the MSc-level course on reinforcement learning. Led the lecture sessions covering Deep Reinforcement Learning, and designed the coursework assignment.
- University of Edinburgh**, MScR in Robotics and Autonomous Systems 2018 – 2019
- Awarded Distinction. Courses on Machine Learning, Reinforcement Learning, and Robotics.
- Technical University of Crete**, BSc & integr. MSc (5 yrs) in Electrical and Computer Engineering 2009 – 2016
- Thesis was awarded full marks (10/10) and led to peer-reviewed publication. Studied Computer Science, Electronic, and Telecommunications with a focus on Artificial Intelligence, Game theory, and Multi-Agent Systems.

## Selected Publications – [Google Scholar](#)

- Multi-Agent Reinforcement Learning: Foundations and Modern Approaches** 2024  
Co-author — Textbook by The MIT Press.
- Pareto Actor-Critic for Equilibrium Selection in Multi-Agent Reinforcement Learning** 2023  
Joint first author — In Transactions on Machine Learning Research (TMLR).
- Benchmarking Multi-Agent Deep Reinforcement Learning Algorithms in Cooperative Tasks** 2021  
Joint first author — In Advances in Neural Information Processing Systems (NeurIPS).
- Scaling Multi-Agent Reinforcement Learning with Selective Parameter Sharing** 2021  
First author — In International Conference on Machine Learning (ICML).
- Shared Experience Actor-Critic for Multi-Agent Reinforcement Learning** 2020  
First author — In Advances in Neural Information Processing Systems (NeurIPS).

## Skills And Additional Experience

**Programming:** Python, C/C++, JS, Bash | PyTorch, HuggingFace, PyTorch Lightning, NumPy, pandas.

**Invited Talks and Seminars:** Berkeley Multi-Agent Seminar Group (2022), UoE (2020 – 2023), Motion2AI (2023).

**Guest Lectures:** University College London (2023), KTH Royal Institute of Technology (2024).