

Felipe Leno da Silva (Leno) *D.Sc. in Computer Engineering, Escola Politécnica da USP*

f.leno@usp.br • Profile on Google Scholar: <https://scholar.google.com.br/citations?user=XbyIZQ4AAAAAJ>
São Paulo, SP • Brazil • <https://f-leno.github.io>

Education

I am a Computer Scientist and have been focusing on academic research since my graduation. My main expertise is Knowledge Reuse for Multiagent Reinforcement Learning. However, I have worked in multiple projects across different subareas of Machine Learning and have experience in multidisciplinary projects.

University of São Paulo, USP SÃO PAULO, BRAZIL
partially carried out at the University of Texas at Austin AUSTIN, USA

D.Sc. in Computer Engineering (FAPESP scholar) 03/2015 – 09/2019

Transfer Learning for Multiagent Reinforcement Learning Systems - This research aims at improving Multiagent Reinforcement Learning Algorithms to allow knowledge generalization and reuse across similar but different tasks.

Advisors: Anna Helena Reali Costa (Brazil) and Peter Stone (USA)

University of São Paulo, USP SÃO PAULO, BRAZIL
M.Sc. in Computer Engineering (CNPq scholar) 02/2013 – 02/2015

Automated Bee Species Identification through Wing Images - This research studied methods to allow an automated bee species identification through Computer Vision and Machine Learning techniques applied to bee wing images.

Advisor: Anna Helena Reali Costa

Pontifical Catholic University of São Paulo, PUC-SP SÃO PAULO, BRAZIL
B.S. in Computer Science (PROUNI scholar) 02/2009 – 12/2012

Professional Experience

I had the opportunity of working in both industry and academic research environments across different countries and using various programming languages and tools. My experience as a System Analyst was useful for helping me building scalable and efficient systems.

Postdoctoral Researcher SÃO PAULO, BRAZIL
São Paulo State University, UNESP 11/2019 – present

The goal of this postdoc is to build machine learning models to detect the occurrence of energy theft by using satellite image processing techniques.

Machine Learning Research Intern EDMONTON, CANADA
Borealis AI 06/2019 – 08/2019

Research aiming at proposing techniques for better estimation of agent uncertainty on RL tasks. Performed at the Royal Bank of Canada under the supervision of Dr. Matthew E. Taylor.

Visiting Researcher AUSTIN, USA
University of Texas at Austin 04/2018 – 03/2019

Multiagent RL research as a member of the Learning Agents Research Group (LARG) under the supervision of Professor Peter Stone.

System Analyst SÃO PAULO, BRAZIL
TOTVS 2010 – 2013

Development and maintenance of Enterprise Resource Planning (ERP) systems for SMEs.

Awards and Honors

- **HLC: Outstanding Young Researcher at the 6th Heidelberg Laureate Forum.** 2018
 - **AAAI: Honorable mention as Best Student Poster at the 31st AAAI conference.** 2017
 - **BRACIS: Best Paper Award at the 5th BRACIS conference.** 2016
 - **WPG-EC: One of the Best Research Projects in the department, USP.** 2013, 2014, 2017
-

Selected Publications

I have over 30 publications at various conference and journal venues such as JAIR, AAI, IJCAI, AAMAS, and IEEE Transactions on Cybernetics.

- SILVA, F. L.; COSTA, A. H. R.** *A Survey on Transfer Learning for Multiagent Reinforcement Learning Systems*. Journal of Artificial Intelligence Research (JAIR), v. 61, p. 645-703, 2019.
- SILVA, F. L.; HERNANDEZ-LEAL, P.; KARTAL, B.; TAYLOR, M.** *Uncertainty-Aware Action Advising for Deep Reinforcement Learning Agents*. AAI Conference on Machine Learning, 2020.
- SILVA, F. L.; TAYLOR, M. E.; COSTA, A. H. R.** *Autonomously Reusing Knowledge in Multiagent Reinforcement Learning*. International Joint Conference on Artificial Intelligence (IJCAI), 2018.
- SILVA, F. L.; COSTA, A. H. R.** *Object-Oriented Curriculum Generation for Reinforcement Learning*. Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS), 2018.
- SILVA, F. L.; GLATT, R.; COSTA, A. H. R.** *Simultaneously Learning and Advising in Multiagent Reinforcement Learning*. Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS), 2017.
- SILVA, F. L.; WARNELL, G.; COSTA, A. H. R.; STONE, P.** *Agents Teaching Agents: A Survey on Inter-agent Transfer Learning*. Autonomous Agents and Multi-agent Systems, accepted, 2019.
- SILVA, F. L.; GLATT, R.; COSTA, A. H. R.** *MOO-MDP: An Object-Oriented Representation for Cooperative Multiagent Reinforcement Learning*. IEEE Transactions on Cybernetics, v. 49(2), p. 567-579, 2019.
- SILVA, F. L.; SELLA, M. L. G.; FRANCOY, T. M.; COSTA, A. H. R.** *Evaluating classification and feature selection techniques for Honeybee subspecies identification using wing images*. Computers and Electronics in Agriculture, v. 114, p. 68-77, 2015.
-

Additional Academic and Research Experience

I will be one of the organizers of the next ALA workshop and have been the main organizer of the SURL workshop series. I have also served as a reviewer for various conferences, journals, and workshops such as IJCAI, Neurocomputing, and ALA.

Workshop Organization

- Adaptive Learning Agents (ALA) Workshop at AAMAS** 2020
- Scaling-Up Reinforcement Learning Workshop at IJCAI and ECML/PKDD** 2017, 2019
- Workshop Chair.
- Workshop on Transfer in Reinforcement Learning at AAMAS** 2017
- Local Organization.

Program Committee Member/Reviewer

- International Conference on Machine Learning (ICML)** 2020
- International Joint Conference on Artificial Intelligence (IJCAI)** 2018, 2019
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS)** 2020
- International Conference on Agents and Artificial Intelligence (ICAART)** 2018
- Brazilian Conference on Intelligent Systems (BRACIS)** 2015, 2018

Scientific Journal Referee

- 2015 – present
- IEEE Transactions on Cybernetics**
- Neurocomputing**
- IEEE Transactions on Systems, Man, and Cybernetics: Systems**
- IET Image Processing**

Undergraduate Research Co-mentor

- University of São Paulo, USP** 2015 – 2018

Undergraduate Thesis Committee Member

- Faculdade de Tecnologia Termomecânica, FTT** 2013 – 2014