

Felipe Leno da Silva (Leno) *D.Sc. student at Escola Politécnica da USP*

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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.

Escola Politécnica of the 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, ongoing (FAPESP scholar) 03/2015 – present

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)

Escola Politécnica of the 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.

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

RL research at the Royal Bank of Canada under supervision of Dr. Matthew 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 supervision of Professor Peter Stone.

Graduate Teaching Assistant SÃO PAULO, BRAZIL
University of São Paulo, USP 07/2013 – 12/2014

My activities involved teaching classes and assignment preparation and correction. This work was done for the following subjects: (i) *Laboratory of the Foundations of Computing Engineering*, and (ii) *Foundations of Computer Engineering*.

System Analyst SÃO PAULO, BRAZIL
TOTVS 2010 – 2013

Development and maintenance of 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
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Selected Publications

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

- 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.**; 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.**; 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.
- GLATT, R.; **SILVA, F. L.**; COSTA, A. H. R. *Towards Knowledge Transfer in Deep Reinforcement Learning*. Brazilian Conference on Intelligent System (BRACIS), p. 91-96, 2016.
- 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.
- SANTANA, F. S.; COSTA, A. H. R.; TRUZZI, F. S.; **SILVA, F. L.**; SANTOS, S. L.; FRANCOY, T. M.; SARAIVA, A. M. *A reference process for automating bee species identification based on wing images and digital image processing*. Ecological Informatics, v. 24, p. 248-260, 2014.

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 Joint Conference on Artificial Intelligence (IJCAI)** 2018, 2019
- PAPIs** 2018, 2019
- Adaptive Learning Agents Workshop at AAMAS (ALA)** 2018, 2019
- Latinx in AI Coalition Workshop** 2019
- 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