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

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, 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.

SILVA, F. L.; HERNANDEZ-LEAL, P.; KARTAL, B.; TAYLOR, M. *Uncertainty-Aware Action Advising for Deep Reinforcement Learning Agents.* Deep Reinforcement Learning Workshop at NeurIPS, 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.

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*

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*