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

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## Education

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

*Machine Learning Research Intern*

**Borealis AI (Edmonton, Canada)**                                                        *06/2019 – 08/2019*

RL research at the Royal Bank of Canada under supervision of Dr. Matthew Taylor.

*Visiting Researcher*

**University of Texas at Austin (Austin, USA)**                                            *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*

**University of São Paulo, USP (São Paulo, Brazil)**                                       *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*

**TOTVS (São Paulo, Brazil)**                                                             *2010 – 2013*

Development and maintenance of ERP systems for small companies.

## Awards and Honors

- **First Place: 311 Calls and 500 Cities Data Science Hackaton at UT Austin.**            *2018*
- **HLC: Outstanding Young Researcher at the 6th Heidelberg Laureate Forum.**              *2018*
- **Dagstuhl: Invited to the *Automating Data Science* Seminar at Schloss Dagstuhl.**      *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 Conference Publications

**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.**; COSTA, A. H. R. *Towards Zero-Shot Autonomous Inter-Task Mapping through Object-Oriented Task Description.* 1st Workshop on Transfer in Reinforcement Learning (TiRL) at AAMAS-17, 2017.

**SILVA, F. L.**; GLATT, R.; COSTA, A. H. R. *Object-Oriented Reinforcement Learning in Cooperative Multiagent Domains.* Brazilian Conference on Intelligent System (BRACIS), p. 19-24, 2016.

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.

## Selected Journal Publications

**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.**; 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.

PERAFAN ,J. C. V. ; **SILVA, F. L.**; JACOMINI, R. S.; COSTA, A. H. R *Pairwise Registration in Indoor Environments using Adaptive Combination of 2D and 3D Cues* Image and Vision Computing, v. 69, p. 113-124, 2018.

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

Workshop Organization

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

Program Committee Member/Reviewer

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| **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

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

Undergraduate Thesis Committee Member

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