Yuri Lavinas

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yurilavinas.github.io

Education

2020-2023 **PhD Student**, *Department of Computer Science, University of Tsukuba, Japan*.

2018-2020 **Master Student**, *Department of Computer Science, University of Tsukuba, Japan*.

2017-2018 **Research Student**, *Department of Computer Science, University of Tsukuba, Japan*.

2009-2016 **Bachelor Degree**, *Department of Computer Science, University of Brasilia, Brazil*.

Publications

2021

Peer-reviewed **Yuri Lavinas**, Claus Aranha and Marcelo Ladeira *Faster Convergence in Multi-Objective Optimization Algorithms Based on Decomposition"*, Under revision.

Peer-reviewed Felipe Vaz, **Yuri Lavinas**, Claus Aranha and Marcelo Ladeira. *"Exploring Constraint Handling Techniques in Real-world Problems on MOEA/D with Limited Budget of Evaluations."*, 2021 Evolutionary Multi-Criterion Optimization (EMO), doi: https://doi.org/10.1007/978303072062-9_44.

2020

Peer-reviewed **Yuri Lavinas**, Claus Aranha, Marcelo Ladeira, and Felipe Campelo. *"MOEA/D with Random Partial Update Strategy."* In: Proceedings of the IEEE congress on evolutionary computation, https://doi.org/10.1109/CEC48606.2020.9185527.

Peer-reviewed Nicolò Vago, **Yuri Lavinas**, Daniele Rodrigues, Felipe Moura, Sergio Cunha, Claus Aranha, Ricardo Torres. *"INTEGRA: an open tool to support graph-based change pattern analyses in simulated football matches."* In: 34th INTERNATIONAL ECMS Conference on Modelling and Simulation, https://doi.org/10.7148/2020-0228.

2019

Peer-reviewed **Yuri Lavinas**, Claus Aranha and Marcelo Ladeira. *"Improving Resource Allocation in MOEA/D with Decision-space Diversity Metrics"*, In Theory and Practice of Natural Computing, pp. 134-146, Cham, 2019. Springer International Publishing, https://www.doi.org/10.1007/978-3-030-34500-6_9, 2019.12

Peer-reviewed **Yuri Lavinas**, Claus Aranha, Testuya Sakurai, *"Using Diversity as a Priority Function for Resource Allocation on MOEA/D"*, in Genetic and Evolutionary Computation Conference Companion (GECCO 02019 Companion), https://doi.org/10.1145/3319619.3321948, 2019.7

Non-Peer-reviewed **Yuri Lavinas**, Claus Aranha, Marcelo Ladeira, Tetsuya Sakurai, *"Resource Allocation in MOEA/D: What is important?"* Symposium of the Japanese Society of Evolutionary Computation (2019.09)

2018

Peer-reviewed **Yuri Lavinas**, Claus Aranha, Tetsuya Sakurai, Marcelo Ladeira, *"Experimental Analysis of the Tournament Size on Genetic Algorithms"*, IEEE International Conference on Systems, Man and Cybernetics, pp.3647-3653, https://doi.org/10.1109/SMC.2018.00617, 2018.10.

Non-Peer-reviewed **Yuri Lavinas**, Claus Aranha, Tetsuya Sakurai, *"Resource Allocation by Diversity"* Symposium of the Japanese Society of Evolutionary Computation (2018.12)

2017

Non-Peer-reviewed **Yuri Lavinas**, Claus Aranha, Marcelo Ladeira, *"Experimental Analysis of the Tournament Size on Evolutionary Algorithms"* Symposium of the Japanese Society of Evolutionary Computation (2017.12)

2016

Non-Peer-reviewed **Yuri Lavinas**, Marcelo Ladeira, Claus Aranha, *"Inducao de Modelo de Risco de Sismos com Tecnicas de Algoritmos Geneticos"* - 68th Annual Meeting of the Brazilian Science Society (SBC) (2016.7) (Poster, in Portuguese)

2014

Peer-reviewed — Claus Aranha, **Yuri Cossich Lavinas**, Marcelo Ladeira and Bogdan Enescu: *"Is it possible to generate good Earthquake Risk Models using Genetic Algorithms?"*, 6th International Conference on Evolutionary Computation Theory and Applications (ECTA), Rome, 2014, https://doi.org/10.5220/0005072600490058.

Skills

Programming languages:

R and Python — I am completely comfortable using and finding information when using these programming languages. Git for project management.

Frameworks and libraries:

R: MOEADr, EAF, MaOEA, feather. nsga2, EMOA, SMOOF, (r)markdown, Plotly.

Python: Pytorch, DEAP, NumPy, Matplotlib, open ai gym, NEAT, CMA, Jupyter notebook.

Research projects:

On going. — Master's and PhD's research: Improving the convergence speed of Multi-Objective Algorithms using partial updates of the population. This work is conducted together with Marcelo Ladeira.

On going. — PI assistant work: Exploring Constraint Handling Techniques in Real-world Problems on MOEA/D with Limited Budget of Evaluations.Accepted for presentation at the EMO 2021 conference.

On going. — Collaborative research work: Analysis of Metaheuristics Behaviour in Continuous Optimisation with Local Optima Networks. This work is conducted together with Gabriela Ochoa.

On going. — Collaborative research work: Uncertainty in Evolutionary Algorithms for Computational Expensive Real-World Problems. This work is conducted together with Claus Aranha and Romain Chassagne.

Finished — Collaborative research work: Human-Computer Collaboration for the Generation of Soccer Strategies using Multi-Agent Simulations. This work is conducted together with Nicolo Vago, Daniele Rodrigues, Felipe Moura, Sergio Cunha, Claus Aranha and Ricardo Torres.

Finished — Undergraduate research work: Generating and Improving the Generation of Earthquake Risk Models Using Evolutionary Algorithms tempered by Domain Knowledge.

Finished — Side project: RUnBBayes: An R package for the UnBBayes Framework.

Finished — PI assistant work: Using NEAT based GANs for the Synthesis of Electroencephalogram Signals with Spindles.

Finished — PI assistant work: Quality Diversity for Multi-Objective Algorithms.

Finished — Side project: Using CMA-ES and Differential Evolution for Updating the Weights of Neural Networks in Game Control.

Research Scholarship

2021 — **Research Internship**, Awarded research scholarship by CSL Kyoto .
PI - Lana Sinapayen

2020 — **Research Internship**, Awarded research scholarship by SPECIES - the Society for the Promotion of Evolutionary Computation in Europe and its Surroundings.
http://species-society.org/species-scholarships/

2020-2023 — **PhD Student**, Awarded research scholarship by MEXT - Ministry of Education, Culture, Sports, Science and Technology, Japan.

2018-2020 — **Masters Student**, Awarded research scholarship by MEXT - Ministry of Education, Culture, Sports, Science and Technology, Japan.

2017-2018 — **Research Student**, Awarded research scholarship by MEXT - Ministry of Education, Culture, Sports, Science and Technology, Japan.

2015-2016 — **Undergraduate Research**, Awarded research scholarship by CNPq - National Council for Scientific and Technological Development, Brazil.

2014-2015 **Undergraduate Research**, Awarded research scholarship by CAPES - Coordination for the Improvement of Higher Education Personnel, Brazil.

2014-2015 **Undergraduate Research**, Awarded research scholarship by CNPq - National Council for Scientific and Technological Development, Brazil.

Teaching Experience

2020-2021 Teacher Assistant, Introductory Technical Writing *http://www.corpuslinguist.com/for-students.html/*

2021 Teacher Assistant, Experimental Design *https://caranha.github.io/ExperimentDesignCS/*

2018 Teacher Assistant, STEMinars - Game development, . *http://conclave.cs.tsukuba.ac.jp/education/steminars/*

2019 Teacher Assistant, STEMinars - Artificial Life *http://conclave.cs.tsukuba.ac.jp/education/steminars/*

2010-2011 Teacher Assistant - Computational Logic 1.

2018-2021 High School Physics Teacher, Escola Opção - Brazilian School in Japan.