Rafael Katopodis

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SKILLS

LANGUAGES
Python
SQL
Julia
C/C++

TOOLS AND LIBRARIES
Spark
NumPy
Pandas
SciPy
matplotlib
scikit-learn
PyTorch

OS
Linux
Windows

LINKS
Github:// **rkatopodis**
LinkedIn:// **rafaelkatopodis**

COURSEWORK

GRADUATE
Probability and Statistics for ML
Reinforcement Learning
Introduction to Robotics
Weightless Neural Nets *(Teaching Asst 2x)*

UNDERGRADUATE
Data Mining
Artificial Intelligence
Linear and Nonlinear Programming
Concurrent and Parallel Programming
Internet of things

EDUCATION

COPPE/UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
M.Sc. in Computer and Systems Engineering
June 2019 - January 2022
Thesis title: "Reinforcement Learning with Weightless Neural Networks"

UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
B.Sc. in Computer Science
March 2015 - July 2019
magna cum laude
Cumulative Score: 9.2/10

EXPERIENCE

AMBEV TECH | Data Scientist
2022 – Present
- Built product recommender systems to personalize a B2B platform with close to a million users
- Designed and ran A/B tests to assess the real-world impacts of different recommendation models

LABZERO (WEIGHTLESS NEURAL NETS LAB) | M.Sc. Researcher
2019 – 2022

- Developed new weightless neural networks architectures suitable for online and nonstationary learning
- Investigated the use of weightless neural nets for policy search and value function approximation in the context of reinforcement learning
- Presented our findings at an international conference (recording)

LABROB (ROBOTICS LAB) | Undergraduate Researcher
2017 – 2019

- Developed Arduino-based control systems for line follower and sumo robots using state machines and PID regulators
- Designed a navigation system for a wheeled robot, using encoders and inertial sensors' readings for odometry and a mounted camera paired with a convolutional neural network for recognizing goals

HONORS AND AWARDS

2021   Invitation to submit an extended version of our ESANN 2021 paper to the Neurocomputing journal
2019   Silver medal - RoboMagellan competition, 2nd Robotics Summit, Joinville
2019   Silver medal - Robot-sumo competition, 15th Winter Challenge, Concórdia

PUBLICATIONS

[1] R. F. Katopodis, P. M. Lima, and F. M. França. Functional gradient descent for n-tuple regression. In *ESANN*, 2021.

[2] Z. Susskind, A. Arora, I. D. Miranda, L. A. Villon, R. F. Katopodis, L. S. de Araújo, D. L. Dutra, P. M. Lima, F. M. França, M. Breternitz Jr, et al. Weightless neural networks for efficient edge inference. In *Proceedings of the International Conference on Parallel Architectures and Compilation Techniques*, pages 279–290, 2022.