Hugo Siqueira Gomes

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EDUCATION AND HONORS

M.Sc. in Electrical and Computer Engineering, Machine Learning — Quebec, Canada | Dec 2020
Laval University
Thesis: Meta Learning For Population-Based Algorithms in Black-Box Optimization.
Fellowships: Institute Intelligence and Data(IID), and Mitacs Accelerate Fellowship.
Relevant Coursework: Deep Learning, Statistical Learning, Reinforcement Learning, and Big Data Analytics.

B.Sc. in Computer Science — Rio de Janeiro, Brazil | Dec 2017
Federal University of Rio de Janeiro
Thesis: Towards Deep Q-Caching
Fellowships: National Council of Scientific Researches Scholarship, and Institutional Scientific Initiation Scholarship
Teacher Assistant (TA): Data Structures and Algorithms, and Formal Languages

WORK EXPERIENCE

NEXERA ROBOTICS | Machine Learning/Robotics Engineer — Vancouver, Canada | Oct 2021 – Currently

- Implemented a computer vision pipeline (data labeling for 3D segmentation, training and evaluating model) for point cloud classification using PointCNN.
- Guided a pick and place robotic solution using Universal Robots and Realsense/Kinect/Ensenso cameras.
- Implemented a production-level QT desktop application for robotic tool.
- Technologies: Open3D, Pytorch, Universal Robots, Kinect Azure DK, Computer Vision

SUPERUBER | Computer Vision Engineer (Remote) — Vancouver, Canada | Apr 2021 – Oct 2021

- Implemented hand tracking system to work in low-light conditions using multiples RealSense cameras.
- Implemented pose estimation system and OSC server in Unity Engine.
- Technologies: Machine learning, Computer Vision, Unity Engine, RealSense, OSC, Python, and C#.

DEEPER SYSTEM | Junior Machine Learning Engineer (Remote) — Nevada, USA | Nov 2017 – May 2018

- Implemented a manageable infrastructure for image processing in cloud servers, which reduced total process time by 30%.
- Automatized expensive and time-consuming tasks (10TB training data for annotation) using SOTA deep learning methods.
- Presented key findings for end customers to the team leader and wrote an executive report.
- Technologies: Deep Learning, Computer Vision, AWS, Docker, and Python.

GENERAL ELECTRIC | Software Engineer Intern — Rio de Janeiro, Brazil | Nov 2016 – Nov 2017

- Deployed 100+ wearable applications that gather training data and send it to docker containers.
- Gathered and Wrangled 1TB data for Human Activity Recognition system that was previously inaccessible datasets.
- Improved 50% accuracy and 400% speed for predictions to end clients to track impact in real-time.
- Technologies: Deep Learning, Time Series, Docker, Python, C++, and Javascript.

SELECTED PUBLICATIONS

- **Hugo Gomes** et al. (2021) Meta Learning Black-Box Population-Based Optimizers. MAIS 2021.
- Azadeh S, **Hugo Gomes** et al. (2019) Unsupervised Temperature Scaling: An Unsupervised Post-Processing Calibration Method of Deep Networks. International Conference on Machine Learning Workshop (ICML UDL)
- Azadeh S, **Hugo Gomes** et al. (2018) Attended Temperature Scaling: A Practical Approach for Calibrating Deep Neural Networks. arXiv.