Hugo Gomes

 hugodovs.com | hugodovs@gmail.com | +1 581-980-5854 | hugodovs | hugodovs

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EDUCATION AND HONORS

Université Laval, Department of Electrical Engineering and Computer Engineering
Quebec City, QC, Canada
Masters in Artificial Intelligence
June 2018 - January 2021
- Thesis: Meta Learning Population-Based Algorithms
- Institute Intelligence and Data (IID) Fellowship
- Relevant Coursework: Machine Learning, Statistical Learning and Reinforcement Learning

Federal University of Rio de Janeiro, Department of Computer Science
Rio de Janeiro, Brazil
Bachelor in Computer Science
August 2013 - December 2017
- Thesis: Towards Deep Q-Caching
- National Council of Scientific Researches Scholarship and Institutional Scientific Initiation Scholarship

PROFESSIONAL EXPERIENCE

Deeper System
Nevada, USA (Remote)
Machine Learning Scientist
November 2017 − May 2018
- Implemented in python an easily 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 machine-learning and deep learning methods.
- Presented key findings for end-customers to the team leader and wrote the requested executive report outlining the strategy and value proposition.
- **Keywords: Deep learning, Computer Vision, AWS, Docker and Python**

General Electric Global Research
Rio de Janeiro, Brazil
Machine Learning Engineer — Internship
November 2016 − November 2017
- Deployed 100+ wearable applications that gather training data and send 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 at real-time.
- **Keywords: Deep learning, Time Series, Docker, Hadoop, Spark, Python, C++ and Javascript**

SKILLS

- **Programming Languages**: Python, R, C, C++, C#, Java, JavaScript, HTML, CSS
- **Machine Learning**: Deep Learning, Reinforcement learning, Neuroevolution, PyTorch, Tensorflow
- **Data Science**: A/B testing, ETL, Time series, Experimental design, Hypothesis testing, Statistical Learning and Data science pipeline (cleansing, wrangling, visualization, modeling, interpretation)
- **Miscellaneous Knowledge**: Data Structures, Software Design, AWS, MongoDB, SQL, Git, Parallel Processing, Hadoop, Spark

PROJECTS AND LEADERSHIP

Reinforcement Learning Pipeline to Improve Content Centric Cache Networks
2016
- Implemented state-of-the-art reinforcement learning algorithms and evolutionary algorithms.
- Developed a new algorithm for caching and routing problem of Content Centric Cache Networks.
- **Keywords: Deep learning, Reinforcement Learning, Neuroevolution and Networks**

C# Developer at Ubisoft Game Lab Competition
2019
- Implemented an AI System for spawn and enemy behavior for a 10-week development of a playable video game prototype.
- Best Game Design Award Nominee with a Team of 8 students and 2 mentors from Ubisoft.
- Enrolled in several game jams, knowledge in Unity Engine, 3D Modelling and Animation.

Teaching Assistance
Formal Languages (University of Rio de Janeiro)
January 2015 − January 2016
- Prepared lab assignments, online monitoring and final evaluation of students.

SELECTED PUBLICATIONS

- Hugo Gomes et al. (2021) Meta Learning Black-Box Population-Based Optimizers. Under Review.
- 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. (2019) Unsupervised Temperature Scaling: Robust Post-processing Calibration for Domain Shift. arXiv.