Joris Guérin

Personal Data

Place and Date of Birth:	Annecy, France, 25 September 1992
Address:	Rua Pinheiro Machado, 181, 22231-090, Rio de Janeiro, Brasil
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Education

Current Post-doctoral position in Machine Learning for Video Analysis
Universidade Federal Fluminense (UFF), Niteroi-RJ, Brasil
Advisors: Pr. Esteban Clua and Pr. José Viterbo Filho

Dec 2018 PhD in Machine Learning and Robotics
Arts et Métiers ParisTech, Lille, France
Advisors: Pr. Olivier Gibaru, Dr. Eric Nyiri, Dr. Stéphane Thiery

Aug 2015 MSc. in Industrial Engineering (Gpa:4)
Texas Tech University, Lubbock
Specialties: Pattern recognition, Optimization & Control theory

Jul 2015 Master Degree in Mechanical and Industrial Engineering
Arts et Métiers ParisTech, Paris, France

Teaching

2019 Short course on Image Clustering (IC)
Summer school EV-PPGC/UFF2019 (Niteroi-BR)
Lecture on the foundations and state-of-the-art for IC

2015-2018 Practical introduction to Machine Learning
Arts et Métiers ParisTech, Lille, France
Introductory lectures and labs for Robotics master students

2015-2016 Basics of programming
Arts et Métiers ParisTech, Lille, France
Labs of python programming to third year engineering students

2015-Current Master projects advising
ENSAM, Lille-FR and UFF, Niteroi-BR
Advising master students' final projects (computer vision and robotics).

french qualification to become assistant professor (*attributed by peers*)
Section 27 computer science
Section 61 Automatics and signal processing

Research Experience

Current / Feb 2019 — Postdoctoral research at UFF, Niteroi-RJ, Brasil
Machine Learning for video understanding
Objective: 2D pose recognition, person re-identification, abandoned objects detection.

Current / Feb 2019 — Research and development at Isabo.ai
Quality control for industry
Objective: Robust object detection in real world from models trained on synthetic images obtained from CAD models.

Dec 2018 / Oct 2015 — Doctoral research at Arts et Métiers ParisTech, Lille, France
Machine Learning for robotics applications
Objective: Self-programming robots.
Achievements: Local Cartesian positioning learning / smart sorting application using real objects clustering

Apr 2018 / Aug 2017 — Visiting Graduate Researcher at Georgia Tech, Atlanta, Georgia, USA
Image clustering for robotics applications
Objective: Advances in unsupervised image classification / Application in robot decision making.
Achievements: Deep ensemble transfer clustering algorithm / Unsupervised robot sorting application.

Jul 2015 / Sep 2014 — Research assistant at Texas Tech University, Lubbock, Texas, USA
Habitat volume optimization in spaceships
Project for Lockheed Martin at NASA JSC
Objective: Space arrangement of the different rooms during a spaceship design
Achievements: Developped a preprocessing algorithm to binpacking of soft objects.

Awards, Certificates and complementary formations

October 2016	IEEE-IES Student Paper Travel Award at IECON 16, Florence, Italy
2017 - 2018	Fulbright Scholarship as a visiting student researcher (Georgia Tech Atlanta) Advisor: Dr. Byron Boots
August 2018	Participation to the "Statistical physics and machine learning back together" summer school, Cargèse, France
February 2017	Participation to VVV17 (Humanoid Robot Programming), S. Margherita, Italy
May 2016	Participation to Machine Learning Summer School 2016, Cadiz, Spain
February 2014	Toefl: 96 / 120

Languages

French:	Mother tongue
English:	Fluent
Portuguese (Brazil):	Fluent

Practical skills

Programming:	python, c++, matlab, java, VBA, Lua, LaTeX
Libraries:	tensorflow, keras, sci-kit learn
Softwares:	Blender, V-rep, Camstudio
Robotics:	ROS, KUKA LBR iiwa programming

Videos

Reinforcement learning: https://www.youtube.com/watch?v=Ekda9q3vv6Y
Unsupervised robotics sorting: https://www.youtube.com/watch?v=NpZIwY3H-gE&t=21s

Publications

Google Scholar https://scholar.google.fr/citations?user=g0-31VYAAAAJ&hl=fr&oi=sra

Accepted

Guérin, Joris et al., "Improving Image Clustering with Multiple Pretrained CNN Feature Extractors", proceedings of BMVC 2018, Newcastle, UK. (29.9% acceptance)

Guérin, Joris et al., "Semantically Meaningful View Selection", proceedings of IROS 2018, Madrid, Spain. (46.7% acceptance)

Guérin, Joris et al., "CNN features are also great at unsupervised classification", proceedings of AIFU 2018, Melbourne, Australia.

Guérin, Joris et al., "Automatic Construction of Real-World Datasets for 3D Object Localization using Two Cameras", submitted to IECON 2018, Washington D.C., USA.

Guérin, Joris et al., "Unsupervised robotic sorting: Towards autonomous decision making robots", International Journal of Artificial Intelligence & Applications (IJAIA), Vol.9,No.2, March 2018

Guérin, Joris et al., "Learning local trajectories for high precision robotic tasks: application to KUKA LBR iiwa Cartesian positioning", proceedings of IECON 2016, Florence, Italy

Guérin, Joris et al., "Locally optimal control under unknown dynamics with learnt cost function: application to industrial robot positioning", proceedings of ACD 2016, Lille, France.

Guérin, Joris et al., "Clustering for different scales of measurement: the gap-ratio weighted K-means algorithm", proceedings of AIAP 2017, Vienna, Austria.

Andrade, Eduardo; Guérin, Joris; Vasconcelos, Cristina, and Viterbo, José, "A Model Based on LSTM Neural Networks to Identify Five Different Types of Malware", proceedings of KES 2019, Budapest, Hungary.