JORIS GUÉRIN

Researcher at IRD / UMR Espace-Dev

PERSONAL DATA

Situation	French, 30 years old (September 25 1992, Annecy, France), Married, 1 child
Address	28 rue Delmas, 31400 Toulouse
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Homepage	`https://jorisguerin.github.io/`

QUALIFICATION - CONSEIL NATIONAL DES UNIVERSITÉS (CNU)

MCF section 27 (14/02/2019 - 31/12/2023)
MCF section 61 (20/01/2019 - 31/12/2023)

EDUCATION

PhD in Computer Science - Signal Processing 2015 - 2018
LISPEN laboratory - École Nationale Supérieure d'Arts et Métiers (ENSAM), Lille, France.

Thesis	"Machine learning improvements for robotic applications in an industrial context : case study of autonomous sorting", defended on December 10 2018, proposed by the jury for the *prix de thèse Pierre Bézier*
Advisors	O. Gibaru, S. Thiery, E. Nyiri
Jury	Y. Laptev (president), O. Pietquin (reviewer), J.P. Gazeau (reviewer), B. Boots, L. Natale, O. Gibaru

Master of Science in Industrial Engineering 2014 - 2015
Texas Tech University (TTU), Lubbock, Texas, USA

Courses	Linear Optimization, Convex Optimization, Nonlinear Optimization, Pattern Recognition, Control Theory for Humans, Risk Assessment, Risk Modeling & assessment, Industrial Cost Analysis, Statistical Analysis with Digital Simulation
GPA	4/4

Ingénieur Arts et Métiers (Master's degree) 2012 - 2015
École Nationale Supérieure d'Arts et Métiers, Cluny, France.

Classes Préparatoires aux Grandes Écoles - Mathématiques-Physique (MP) 2010 - 2012
Lycée La Martinière Monplaisir, Lyon, France.

ACADEMIC PROFESSIONAL EXPERIENCE

Researcher Nov 2022 - Current
IRD, UMR Espace-Dev, Montpellier, France.

Topic	*Underwater Video Analysis & Artificial Intelligence Safety*
Objective	Developing Machine Learning approaches to enhance global resilience to Climate Change.

Post-doctoral researcher Nov 2020 - Oct 2022

Artificial and Natural Intelligence Toulouse Institute (ANITI), Toulouse, France.

Topic	*Runtime Verification for Critical Machine Learning Applications*
Advisors	J. Guiochet (LAAS-CNRS) & K. Delmas (ONERA)
Objective	Develop methods to ensure the safety of complex cyber-physical systems using neural network components by analyzing predictions at inference time.

Post-doctoral researcher Dec 2019 - Oct 2020

Universidade Federal do Rio Grande do Norte (UFRN), Natal, Brazil.

Topic	*Object Detection for Autonomous Robotics Applications*
Advisor	L.M. Garcia Goncalves
Objective	Improve environmental monitoring using robotic systems.
Achievements	New approach to robust detection for objects under periodic motion.

Post-doctoral researcher Feb 2019 - Dec 2019

Media Lab - Universidade Federal Fluminense (UFF), Niterói, Brazil.

Topic	*Person Re-Identification for Practical Scenarios*
Advisors	E.W. Gonzalez Clua & J. Viterbo Filho
Objective	Develop new methods for person re-identification adapted to the practical context of person search in large networks of city surveillance cameras.
Achievements	New implementation framework and evaluation metrics for person search including the human monitoring agent in the loop.

Doctoral researcher Oct 2015 - Dec 2018

LISPEN laboratory - École Nationale Supérieure d'Arts et Métiers (ENSAM), Lille, France.

Topic	*Machine Learning for robotics applications*
Advisors	O. Gibaru, S. Thiery, E. Nyiri
Objective	Implementation of robotics applications with minimal human intervention.
Achievements	Smart sorting application using real objects clustering, Local Cartesian positioning learning.

Visiting Graduate Researcher Aug 2017 - Apr 2018

Robot Learning Laboratory - Georgia Institute of Technology, Atlanta, Georgia, USA

Topic	*Image clustering for robotics applications*
Advisor	B. Boots
Objective	Advances in unsupervised image classification, Application in robot decision making.
Achievements	Deep ensemble transfer clustering algorithm, Semantic view selection model.

Research assistant Sep 2014 - Jul 2015

Texas Tech University, Lubbock, Texas, USA

Topic	*Habitat volume optimization in spaceships*, project for Lockheed Martin at NASA JSC
Advisor	S.M Hsiang
Objective	Space arrangement of the different rooms during a spaceship design.
Achievements	Developed a preprocessing algorithm to bin-packing of soft objects.

OTHER PROFESSIONAL EXPERIENCE

Machine Learning external consultant Jun 2020 - Jun 2021

Dataclocker, Paris, France.

Description	Dataclocker is a startup developing business data analysis tools for shopping centers. As an external consultant I advise their research team on topics related to person counting from videos and sentiment analysis from comments on social networks.

Research Engineer Feb 2019 - Feb 2020
Isabo.ai, Lille, France.

Description	Isabo.ai was a startup developing tools for automatic quality control of industrial production lines using machine learning. As a research engineer, I worked on problems related to training robust object detection models using only synthetic images generated with CAD models.

TEACHING ACTIVITIES

Course work

- Statistical exploration of multidimensional data 2020 - 2022
  Institut National des Sciences Appliquées (INSA), Toulouse, France.

Type	Lectures (CM), Laboratory work (TP) and Tutorial classes (TD)
Workload	56 hours
Level	Engineering school (4^{th} year)
Classes size	Groups between 10 and 25 students

- Embedded computing 2020 - 2021
  IUT - GEII, Toulouse, France.

Type	Laboratory work (TP)
Workload	24 hours
Level	Bachelor (1^{st} year)
Classes size	Groups of 28 students

- Digital information processing 2020 - 2021
  Université Paul Sabatier (UPS), Toulouse, France.

Type	Laboratory work (TP)
Workload	9 hours
Level	Bachelor (1^{th} year)
Classes size	Groups between 8 and 16 students

- Image processing and analysis 2020 - 2021
  Université Paul Sabatier (UPS), Toulouse, France.

Type	Laboratory work (TP)
Workload	12 hours
Level	Masters (SIA-AMS and RMGBM)
Classes size	Groups 12 students

- Introduction to Machine Learning 2016 - 2017
  École Nationale Supérieure d'Arts et Métiers (ENSAM), Lille, France.

Type	Lectures (CM) and Tutorial classes (TD)
Workload	38 hours
Level	Masters (SMILE, KIMP and ColRobot)
Classes size	Groups between 4 and 16 students

- Introduction to python programming 2015 - 2021
  ENSAM, Lille & Prépa INP, Toulouse, France.

Type	Laboratory work (TP)
Workload	96 hours
Level	Engineering school (1^{st} year)
Classes size	groups of $\sim$ 20 students per semester

Writing of teaching documents

- Lecture notes and accompanying code for the course *Introduction to Machine Learning: Python application using Scikit-learn*
- Slides and code for the chapter on clustering of the course *Statistical exploration of multidimensional data.*
- Slides and accompanying code for a short course on image clustering (see *Invited Talks*).
- Examination documents for different labs ("*sujets de TP*")

Students projects advised

- Master's research initiation project (2020 - 2021), M1 EEA SIA, Université Toulouse III - Paul Sabatier, *Comparing standard methods with learning based method for facial recognition.*
- Master's final project - PJE (2016 - 2017), co-advised at 40% with S. Thiery and E. Nyiri, ENSAM Lille, *Review of robotic grasping methods based on 3D point clouds*
- Second year group project - PJT (2017-2018), co-advised at 40% with S. Thiery and E. Nyiri, ENSAM Lille, *Grasp detection using deep learning*
- Second year group project - PJT (2017-2018), co-advised at 25% with S. Thiery and E. Nyiri, ENSAM Lille, *Data augmentation for image clustering*
- Second year group project - PJT (2016-2017), co-advised at 50% with S. Thiery and E. Nyiri, ENSAM Lille, *Identification of superquadrics from 3D point clouds for grasp-zone identification*
- Second year group project - PJT (2016-2017), co-advised at 40% with S. Thiery and E. Nyiri, ENSAM Lille, *Transfer learning for robotics sorting*

ADVISING

PhD students

- Eduardo Andrade (Ongoing), co-advised at 50% with J. Viterbo Filho, U.F. Fluminense (UFF), Brazil, *One-shot learning approaches for person re-identification*
- Raul S. Ferreira (Ongoing), co-advised at 30% with J. Guiochet and H. Waeselynck, LAAS-CNRS, Toulouse, France, *Safety Monitoring of Machine Learning Perception Functions*

Master students

- Luigy A. Machaca A. (Defended on 29/11/2022), co-advised at 50% with E.W. Gonzalez Clua, U.F. Fluminense (UFF), Brazil, *Improving person re-identification from surveillance videos by tracking and anomaly detection*
- Jose M. Huaman C. (Defended on 15/12/2022), co-advised at 50% with E.W. Gonzalez Clua, U.F. Fluminense (UFF), Brazil, *Analysis of different re-identification approaches and datasets over full video frames*
- Kimberley Gaume (Defended on 23/08/2021), co-advised at 50% with F. Lerasle, LAAS-CNRS, Toulouse, France, *Joint optimization of semantic content and execution time for trajectory planning*
- Felix O. Sumari (Defended on 17/03/2021), co-advised at 50% with E.W. Gonzalez Clua, U.F. Fluminense (UFF), Brazil, *Towards practical implementations of person re-identification from full video frames*
- Igor Garcia B.S. (Defended on 17/12/2020), co-advised at 50% with J. Viterbo Filho, U.F. Fluminense (UFF), Brazil, *A systematic approach for object detection using deep learning and CAD models*

OTHER SCIENTIFIC ACTIVITIES

Reviewer

Journals

- Neurocomputing (ISSN: 0925-2312)
- Journal of Intelligent & Robotic Systems (JINT, ISSN: 0921-0296)
- Applied Intelligence (APIN, ISSN: 0924-669X)
- Agronomy (ISSN: 2073-4395)
- The International Journal of Press/Politics (IJPP, ISSN: 1940-1612)

Conferences and workshops

- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2021 & 2022
- IEEE/IFIP International Conference on Dependable Systems and Networks (DSN) 2021 & 2022
- International Conference on Computer Safety, Reliability and Security (SafeComp) 2022
- Conference on Graphics, Patterns and Images (SIBGRAPI) 2019 & 2020
- ECML/PKDD workshops: Trustworthy Artificial Intelligence (2022)
- IJCAI workshops: AISafety (2021)
- NeurIPS workshops: Tackling Climate Change with Machine Learning (2020 & 2021)
- ICLR workshops: Tackling Climate Change with Machine Learning (2020 & 2021)
- ICML workshops: Artificial Intelligence for Social Good (2019)

Conference Organization

- Web chair for **SafeComp 2023** (*42nd International Conf. on Computer Safety, Reliability and Security*). Designed and maintained the website: `https://safecomp2023.cnrs.fr/`.
- Program chair for the *Workshop of Works in Progress*, 35th Conference on Grphics Patterns and Images (**SIBGRAPI 2022**).
- Session chair, *CV: Object Detection & Categorization*, 37th AAAI Conference on Artificial Intelligence (**AAAI 2023**).
- Session chair, *mage and Video Understanding / Video Processing Analysis*, 18th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (**VISAPP 2023**).
- Session chair, *Requirements Analysis and Management*, 23rd International Conference on Enterprise Information Systems (**ICEIS 2021**).

Participation to commitees

- Committee member for the 2023 Fulbright France student program.

Participation to juries

- Jury member for the master thesis defense of Jose M. Huaman C. (15/12/2022), *Benchmarking person re-identification datasets and approaches for practical real-world implementations*, Instituto da Computação, Universidade Federal Fluminense (UFF), Niterói, Brazil.
- Jury member for the master thesis defense of Luigy A. Machaca A. (29/11/2022), *TrADe Re-ID–Live Person Re-Identification using Tracking and Anomaly Detection*, Instituto da Computação, Universidade Federal Fluminense (UFF), Niterói, Brazil.

- Jury member for the master thesis defense of Felix O. Sumari (17/03/2021), *Towards practical implementations of person re-identification from full video frames*, Instituto da Computação, Universidade Federal Fluminense (UFF), Niterói, Brazil.
- Jury member for the master thesis defense of Igor Garcia B.S. (17/12/2020), *A systematic approach for object detection using deep learning and CAD models*, Instituto da Computação, Universidade Federal Fluminense (UFF), Niterói, Brazil.
- Jury member for the PhD qualification of Diego Rocha Lima (10/02/2020), *A bi-objective vehicle routing problem that integrates routing operations into tactical grouping decisions*, Universidade Federal do Rio Grande do Norte (UFRN), Natal, Brazil.

Invited Talks

- 10/01/2023, "Runtime Monitoring of Deep Neural Networks", invited talk at the ICAR team monthly meeting. LIRMM, Montpellier, France.
- 08/11/2022, "Runtime Monitoring of Deep Neural Networks", invited talk at the ANITI Certif'AI chair bi-annual workshop. ONERA, Toulouse, France.
- 03/10/2022, "Unifying Evaluation of Machine Learning Safety Monitors", invited talk at SHARC 2022 – Joint annual workshop of GT2 (Autonomous vehicles) and GT4 (Robotics control architectures) of the CNRS robotics research group, Laboratoire CRIStAL, Villeneuve d'Ascq, France.
- 24/06/2021, "Runtime monitoring of UAV emergency landing based on deep neural networks", invited talk at MBDA systems, Le Plessis-Robinson, France.
- 13/10/2020, "Grouping Countries and Regions to Improve Covid-19 Dynamics Predictions", invited talk for the *Covid 19* graduate course from the Departamento de Engenharia de Computação e Automação (DCA), Universidade Federal do Rio Grande do Norte (UFRN), Natal, Brazil.
- 29/06/2020, "Robust vision for robotics: leveraging movement to improve perception skills", invited talk at the Humanoid Sensing and Perception group, Instituto Italiano di Tecnologia (IIT), Genova, Italia
- 22/05/2019, "Machine learning improvements for robotic applications in industrial context", invited talk for the weekly seminars of the Instituto da Computação, Univ. Fed. Fluminense (UFF), Niterói, Brazil.
- 18/03/2019, "Image clustering with deep feature extractors", 4 hours short course for the PPGC/UFF 2019 summer school, Instituto da Computação, Universidade Federal Fluminense (UFF), Niterói, Brazil.

Talks in conferences

- AAAI 2023 - AAAI Conference on Artificial Intelligence, Washigton D.C., USA (Talk & poster)
- NeurIPS 2022 ML Safety Workshop, Virtual (Poster)
- ISSRE 2022 - IEEE International Symposium on Software Reliability Engineering, Virtual (Talk)
- ICRA 2022 - IEEE International Conference on Robotics and Automation, Philadelphia, USA (Talk & poster)
- SSIV 2021 - 7th International Workshop on Safety and Security of Intelligent Vehicles, Virtual (Talk)
- ICEIS 2021 - 23rd International Conference on Enterprise Information Systems, Virtual (Talk)
- ICMLA 2020 - 20th IEEE International Conference on Machine Learning and Applications, Virtual (Talk)
- IROS 2018 - IEEE International Conf. on Intelligent Robots and Systems, Madrid, Spain (Talk & poster)
- BMVC 2018 - 29th British Machine Vision Conference, Newcastle, UK (Poster)
- AIAP 2017 - 4th International Conference on Artificial Intelligence and Applications, Vienna, Austria (Talk)
- ACD 2016 - 13th European Workshop on Advanced Control and Diagnosis, Lille, France (Talk)
- IECON 2016 - 42nd Annual Conference of the IEEE Industrial Electronics Society, Florence, Italy (Talk)

DISTINCTIONS AND COMPLEMENTARY FORMATIONS

Distinctions

- IEEE-IES Student Paper Travel Assistance Award at IECON 2016, Florence, Italy (13 grantees for 82 applicants)
- 2017 Fulbright Scholarship as a visiting student researcher (Georgia Tech Atlanta)

Complementary formations

- Participation to the "Statistical physics and machine learning back together" summer school, Cargèse, France
- Participation to VVV17 (Humanoid Robot Programming), S. Margherita, Italy
- Participation to Machine Learning Summer School 2016, Cadiz, Spain

OPEN-SOURCE CODE, DATASETS AND BLOG POSTS

Code

- Benchmarking neural network runtime monitoring approaches on popular computer vision datasets, `https://github.com/jorisguerin/neural-network-monitoring-benchmark`
- Vision module for UAV emergency landing in urban environments, `https://jorisguerin.github.io/ANITI_UavEmergencyLanding/`
- Regions clustering based on early transmission features of Covid-19, `https://github.com/jorisguerin/clustering_covid`

Datasets

- Semantic View Selection dataset, `https://github.com/jorisguerin/SemanticViewSelection_dataset`, *9112 images representing everyday objects under different poses, and observed under multiple views with a camera mounted on the end-effector of a robot manipulator.*
- Screw Drivers database for 3D stereo object localization, `https://github.com/jorisguerin/endToEnd_stereoLocalization`, *5008 pairs of stereo images with 3D position labels*
- Tool Database for image-set clustering, `https://github.com/jorisguerin/toolClustering_dataset`, *560 images of shopfloor objects under different background and lighting conditions*

Blog posts

- A Quick Guide to Design Rigorous Machine Learning Experiments, `https://medium.com/@jorisguerin.research/a-quick-guide-to-designing-rigorous-machine-learning-experiments-21b19f067703`

PRACTICAL SKILLS

Computer science

Languages	PYTHON, C++, MATLAB, JAVA, VBA, LUA
Machine Learning	tensorflow, pytorch, keras, scikit-learn
Robotics	ROS, KUKA LBR iiwa programming
Softwares	Blender, V-REP

Scientific communication

Writing	LaTeX, TikZ
Video editing	Blender, CamStudio

Languages

French	Mother tongue
English	Fluent
Portuguese:	Fluent

PUBLICATIONS

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

Thesis

Guérin, J. (2018). Machine learning improvements for robotic applications in an industrial context : case study of autonomous sorting. *École Nationale Supérieure d'Arts et Métiers*.

Journals

Guérin, J., Thiery, S., Nyiri, E., Gibaru, O., & Boots, B. (2021). Combining pretrained CNN feature extractors to enhance clustering of complex natural images. *Neurocomputing*, 423, 551-571.

Sumari, F. O., Machaca, L., Huaman, J., Clua, E. W., & **Guérin, J.** (2020). Towards practical implementations of person re-identification from full video frames. *Pattern Recognition Letters*, 138, 513-519.

Nobre, R. L. G., Caliman, A., Cabral, C. R., de Carvalho Araújo, F., **Guérin, J.**, Dantas, F. D. C. C., Quesado, L. B., Venticinque, E. M., Guariento, R. D., Amado, A. M., Kelly, P., Vanni, M. J., & Carneiro, L. S. (2020). Precipitation, landscape properties and land use interactively affect water quality of tropical freshwaters. *Science of The Total Environment*, 716, 137044.

Pereira, I. G.*, **Guérin, J.***, Junior, A. G. S.*, Garcia, G. S.*, Prisco, P., Miani, A., Distante, C., & Goncalves, L. M. G. (2020). Forecasting Covid-19 dynamics in Brazil: a data driven approach. *International Journal of Environmental Research and Public Health*, 17, 5115.

Andrade, E. D. O., Viterbo, J., **Guérin, J.**, & Bernardini, F. C. (2022). Malware Classification Using Word Embeddings Algorithms and Long-Short Term Memory Networks. *Computational Intelligence*, 1-29.

Guérin, J., Thiery, S., Nyiri, E., & Gibaru, O. (2018). Unsupervised robotic sorting: Towards autonomous decision making robots. *International Journal of Artificial Intelligence & Applications (IJAIA)*, 9, 81-98.

Book chapters

Pereira, I. G., Junior, A. G. S., Aragão, D. P., de Oliveira, E. V., Bezerra, A. A., Pereira, F. A., Costa, J. G. F. S., Cuno, J. S., dos Santos, D. H., **Guérin, J.**, Conci, A., Clua, E. W. G., Distante, C. & Gonçalves, L. M. G. (2021). Epidemiology forecasting of COVID-19 using AI - A Survey. In *Computational Intelligence for COVID-19 and Future Pandemics: Emerging Applications and Strategies*, Pages 1-32, Disruptive Technologies and Digital Transformations for Society 5.0 Series, Springer.

International conferences

Guérin, J., Delmas, K., Ferreira, R. S. & Guiochet, J. (2023, February). Out-Of-Distribution Detection Is Not All You Need. In *37th AAAI Conference on Artificial Intelligence.* (to appear). AAAI. (Acceptance: 19.6%)

Huaman, J., Sumari, O., Machaca, L., Clua, E. & **Guérin, J.** (2023, February). Benchmarking person re-identification datasets and approaches for practical real-world implementations. In *18th International Conference on Computer Vision Theory and Applications (VISAPP)* (to appear). Scitepress.

Andrade, E., Sampaio, I., **Guérin, J.**, Clua E. & Viterbo, J. (2023, February). Combining Two Adversarial Attacks Against Person Re-Identification Systems. In *18th International Conference on Computer Vision Theory and Applications (VISAPP)* (to appear). Scitepress.

* indicates equal contributions

Guérin, J., Ferreira, R. S., Delmas, K., Guiochet, J. (2022, November). Unifying Evaluation of Machine Learning Safety Monitors. In *2022 IEEE International Symposium on Software Reliability Engineering (ISSRE)* (to appear). IEEE. (Acceptance: 22.8%)

Guérin, J., Delmas, K., Guiochet, J. (2022, May). Evaluation of Runtime Monitoring for UAV Emergency Landing. In *2022 IEEE International Conference on Robotics and Automation (ICRA)* (pp. 9703-9709). IEEE. (Acceptance: 43.1%)

Ferreira, R. S., **Guérin, J.**, Guiochet, J., & Waeselynck, H. (2022, November). SiMOOD: Evolutionary Testing Simulation with Out-Of-Distribution Images. In *27th IEEE Pacific Rim International Symposium on Dependable Computing (PRDC 2022)* (to appear). IEEE. (Acceptance: 38%)

Machaca, L., Sumari F. O., Huaman, J., Clua, E., & **Guerin, J.** (2022, December). TrADe Re-ID–Live Person Re-Identification using Tracking and Anomaly Detection. In *2022 IEEE International Conference On Machine Learning And Applications (ICMLA)* (to appear). IEEE. (Acceptance: 63.9%)

Sampaio, I., Machaca, L., Viterbo, J., & **Guérin, J.** (2021, April). A Novel Method for Object Detection using Deep Learning and CAD Models. In *23rd International Conference on Enterprise Information Systems (ICEIS 2021)* (pp. 75-82). Scitepress.

Guérin, J., Canuto, A. M. D. P., & Concalves, L. M. G. (2020, December). Robust Detection of Objects under Periodic Motion with Gaussian Process Filtering. In *2020 IEEE International Conference On Machine Learning And Applications (ICMLA)* (pp. 685-692). IEEE. (Full paper, Acceptance: 25%)

Andrade, E. D. O., Viterbo, J., Vasconcelos, C. N., **Guérin, J.**, & Bernardini, F. C. (2019). A Model Based on LSTM Neural Networks to Identify Five Different Types of Malware. In *2019 International Conference on Knowledge-Based and Intelligent Information & Engineering Systems (KES)* (pp. 182-191). Elsevier.

Guérin, J., & Boots, B. (2018, September). Improving Image Clustering With Multiple Pretrained CNN Feature Extractors. In *2018 British Machine Vision Conference (BMVC)* (pp. 51). BMVA. (Acceptance: 29.9%)

Guérin, J., Gibaru, O., Nyiri, E., Thiery, S., & Boots, B. (2018, October). Semantically Meaningful View Selection. In *2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (pp. 1061-1066). IEEE. (Acceptance: 46.7%)

Guérin, J., Gibaru, O., Nyiri, E., Thiery, S., & Palos, J. (2018, October). Automatic Construction of Real-World Datasets for 3D Object Localization using Two Cameras. In *IECON 2018-44th Annual Conference of the IEEE Industrial Electronics Society* (pp. 3655-3658). IEEE.

Guérin, J., Gibaru, O., Thiery, S., & Nyiri, E. (2018). CNN features are also great at unsupervised classification. In *2018 International Conference on Artificial Intelligence and Applications (AIFU)* (pp. 83-95). AIRCC.

Guérin, J., Gibaru, O., Thiery, S., & Nyiri, E. (2017). Clustering for different scales of measurement-the gap-ratio weighted k-means algorithm. In *2017 International Conference on Artificial Intelligence and Applications (AIAP)* (pp. 35-52). AIRCC.

Guérin, J., Gibaru, O., Nyiri, E., & Thiery, S. (2016, October). Learning local trajectories for high precision robotic tasks: Application to KUKA LBR iiwa Cartesian positioning. In *IECON 2016-42nd Annual Conference of the IEEE Industrial Electronics Society* (pp. 5316-5321). IEEE.

International workshops

Guérin, J., Delmas, K., Ferreira, R.S., & Guiochet, J. (2022, December). Out-Of-Distribution Detection Is Not All You Need. In *NeurIPS Workshop on Machine Learning Safety.* (non archival).

Guérin, J., Delmas, K., & Guiochet, J. (2021, June). Certifying Emergency Landing for Safe Urban UAV. In *7th International Workshop on Safety and Security of Intelligent Vehicles (SSIV 2021) at IEEE/IFIP Intern. Conf. on Dependable Systems and Networks (DSN-W).* (pp. 55–62). IEEE. (Acceptance: 67%)

Guérin, J., Gibaru, O., Thiery, S., & Nyiri, E. (2016, November). Locally optimal control under unknown dynamics with learnt cost function: application to industrial robot positioning. In *2016 European Workshop on Advanced Control and Diagnosis (ACD)* (p. 012036). IOP Publishing. (Acceptance: 71%)

National conferences

Gaume, K., **Guérin, J.** & Lerasle, F. (2022, July). Optimisation conjointe du contenu sémantique et du temps d'exécution pour une tâche robotisée de saisie d'objet. In *2022 Reconnaissance des Formes, Image, Apprentissage et Perception (RFIAP)*. AFRIF.