

QUENTIN BOUNIOT

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Personal page ◊ Github ◊ LinkedIn

EDUCATION

CEA-List, Université Paris-Saclay / Université Jean-Monnet, Saint-Étienne 2019-2023
PhD in Computer Science Paris, France

Thesis : "Few-Shot Learning : Application to Object Detection
and Semantic Instance Segmentation",
Advisor : Prof. Amaury Habrard

CentraleSupélec, Université Paris-Saclay 2015-2019
Engineering degree - M.Sc in Computer Science Paris, France
Majoring in Robotics and AI

Université de Lorraine 2018-2019
M.Sc in Computer Science Nancy, France
Majoring in Machine Learning, Vision and Robotics,
with High Honors - rank 1/18

Higher School Preparatory Classes 2013-2015
Section Mathematics and Physics Bordeaux, France
Intensive preparatory course for national competitive exams to the *grandes écoles*.

Baccalauréat 2013
Major in Mathematics Tahiti, French Polynesia
with Highest Honors (*Mention Très bien*)

WORK EXPERIENCE

CEA-List, Université Paris-Saclay April - September 2019
AI Research Intern Paris, France

Studying the impact of adversarial examples on person re-identification systems.
Improving the robustness of person re-identification systems using deep learning.

SmartBuild Asia February - August 2018
Data Scientist Intern Kuala Lumpur, Malaysia

Automatic gathering of online complex data and matching with existing information.
Matching millions of unstructured sentences in both Malay and English to the construction project they
were referring to.
Summarization of web pages in a few sentences with high accuracy.

Orange France July 2017 - January 2018
Intern in the Department of Cognitive Computer Science Paris, France

Development of tools for Conversational Agents.
Architecture development for conversational agents that support collaborative learning.

TEACHING

Algorithms and complexity

2020-2022

Course Lecturer at CentraleSupélec, Université Paris-Saclay

Paris, France

First year Computer Science course for the main engineering track at CentraleSupélec.

Factory-AI for Deep Learning Purposes

2022

Tutorial at CEA-List, Université Paris-Saclay

Paris, France

Tutorial for several CEA-List laboratories on the use of the internal HPC cluster based on Slurm for deep learning experiments.

PUBLICATIONS

PATENTS

- **Bouniot, Quentin**, Romaric Audigier, Angélique Loesch. (2020) *Méthode d'apprentissage d'un réseau de neurones pour le rendre robuste aux attaques par exemples contradictoires* (French Patent No. FR3116929A1). Institut national de la propriété industrielle (INPI).
Patent link
- **Bouniot, Quentin**, Romaric Audigier, Angélique Loesch. (2020) *Learning method for a neural network for rendering it robust against attacks by contradictory examples* (European Patent No. EP4006786A1). European Patent Office (EPO).
Patent link

INTERNATIONAL CONFERENCE PROCEEDINGS

- **Bouniot, Quentin**, et al. "Proposal-Contrastive Pretraining for Object Detection from Fewer Data." *International Conference on Learning Representations*. 2023.
(**Notable top 25%**) Paper link
- **Bouniot, Quentin**, et al. "Towards Few-Annotation Learning for Object Detection : Are Transformer-Based Models More Efficient ?." *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision*. 2023.
Paper link
- **Bouniot, Quentin**, et al. "Improving Few-Shot Learning Through Multi-task Representation Learning Theory." *Computer Vision–ECCV 2022 : 17th European Conference, Tel Aviv, Israel, October 23–27, 2022, Proceedings*, Part XX. Cham : Springer Nature Switzerland, 2022.
Paper link Github link
- **Bouniot & Redko**, "Understanding Few-Shot Multi-Task Representation Learning Theory", *ICLR Blog Track*, 2022.
Blog post link
- **Bouniot, Quentin**, Romaric Audigier, and Angélique Loesch. "Optimal transport as a defense against adversarial attacks." *2020 25th International Conference on Pattern Recognition (ICPR)*. IEEE, 2021.
Paper link Github link
- **Bouniot, Quentin**, Romaric Audigier, and Angélique Loesch. "Vulnerability of person re-identification models to metric adversarial attacks." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops*. 2020.
(**DeepMind Travel Award.**) Paper link Github link

WORKSHOPS

- **Bouniot, Quentin**, et al. "Putting Theory to Work : From Learning Bounds to Meta-Learning Algorithms." *4th Workshop on Meta-Learning (MetaLearn) at NeurIPS 2020*.

NATIONAL CONFERENCES

- **Bouniot, Quentin**, et al. "Vers une meilleure compréhension des méthodes de méta-apprentissage à travers la théorie de l'apprentissage de représentations multi-tâches." *Conférence sur l'Apprentissage Automatique (CAp)*. 2021.
(**Oral Presentation**)

PROFESSIONAL SERVICES

PEER REVIEW

- International Conference on Machine Learning (ICML), 2021-2023
- IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2023
- NeurIPS Workshop on Meta-Learning (MetaLearn), 2020-2022
- ICML Workshop on Pre-training : Perspectives, Pitfalls, and Paths Forward, 2022
- International Conference on Automated Machine Learning (AutoML), 2022
- International Conference on Learning Representations (ICLR), 2022
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI),
Special Issue on *Learning with Fewer Labels in Computer Vision*, 2021
- Neural Information Processing Systems (NeurIPS), 2021

INVITED TALKS

DataIA Workshop "Safety & AI"

CentraleSupélec, Université Paris-Saclay

23th September 2020

Paris, France

Presentation of our published work on adversarial attacks against Person Re-Identification systems and their defenses.

GdR ISIS - "Towards pragmatic learning in a context of limited labeled visual data"

Paris Nord

26th November 2021

Paris, France

Presentation of our work on improving Few-Shot Learning through Multi-task Representation Learning Theory.

TECHNICAL SKILLS

Computer Languages	Python, C++, Matlab, Java, Javascript
Machine Learning	Pytorch, Keras, Tensorflow, Scikit-Learn
HPC	Slurm
Systems	Unix, Windows, SQL, Git

LANGUAGES

French	Native Language
English	C1 - CentraleSupélec TOEFL ITP : 610/677
Japanese	A2