Oriane Siméoni

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🌐 https://osimeoni.github.io

Research interests

Computer vision, image representation, machine learning.

Research positions

Dec. 2020–today	**Research Scientist**, *valeo.ai*, Paris, France *Publications*: [7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17]
March 2020–Aug. 2020	**Research Intern**, *Google*, Grenoble, France *Supervisors*: Pr. Cordelia Schmid and Dr. Chen Sun
Nov. 2018–Feb. 2019	**Intern**, *Twitter / Magic Pony*, London, England *Supervisors*: Dr. Wenzhe Shi and Dr. Jose Caballero
April 2018–June 2018	**Visiting Student**, *Center for Machine Perception, CVUT*, Prague, Czech Republic *Supervisor*: Dr. Ondřej Chum *Publication*: [3]
Feb. 2016–July 2016	**Research Intern**, *Onera*, Paris, France *Supervisors*: Dr. Stéphane Herbin and Dr. Adrien Chan Hon Tong *Thesis*: Scene representation through contextualization of object recognition algorithms in images
June 2014–Sept. 2014	**Research Intern**, *Institute for Advanced Biosciences, Keio University*, Tsuruoka, Japan *Supervisor*: Dr. Kumar Selvarajoo *Thesis*: Statistical analysis of genes expression *Publication*: [6]
June 2013–July 2013	**Research Intern**, *Humboldt University*, Berlin, Germany *Supervisor*: Pr. Andreas Griewank *Thesis*: Development of an algebraic tool for Automatic Differentiation

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Activities

2024	**ECCV 2024**, *Area Chair*, Milan, Italy
2023	**ICCV 2023**, *Logistics Chair*, Paris, France
2023	**CVPR 2023 Tutorial**, *Organization of the tutorial "Object localization for free"*, Vancouver, Canada
2023-24	**Internal workshop**, *Organization of valeo.ai internal workshop VAST* Paris, France
2020-23	**Journal reviewing**, TPAMI [2021-24], IJCV [2022-24], CVIU [2022-23], IEEE RA [2020]
2020-23	**Conference reviewing**, CVPR [2020-24], ECCV [2022], ICCV [2023], NeurIPSW [2021]

Education

2016–2020 **PhD researcher**, *Inria / Université de Rennes 1*, Rennes, France
Supervisors: Dr. Yannis Avrithis and Pr. Guillaume Gravier
Thesis: Robust image representation for classification, retrieval and object discovery
Publications: [1, 2, 3, 4, 5]
Reviewers: Pr. Patrick Pérez and Pr. Josef Sivic
Jury members: Pr. Cordelia Schmid, Dr. Hervé Jégou,
Dr. Diane Larlus and Dr. Elisa Fromont
Dr. Ondřej Chum (invited)
Defense date: 10th of September 2020 (initially 31th of March 2020)

2015–2016 **Master of Statistics and Business Intelligence**, *Paul Sabatier University*, Toulouse, France

2012–2015 **Engineer diploma in Telecommunications**, *Enseirb-Matmeca*, Bordeaux, France

Awards

2022 CVPR 2022 Outstanding Reviewer Award

2019 ICVSS 2019 Best Presentation Award

2018 Guest invitation Google Computer Vision PhD Summit, Zurich

2017 VS3 Vision and Sports Summer School 2017 Best Poster Award

Invited talk

12/2023 **Object localization (almost) for free harnessing self-supervised features**, *48th Pattern Recognition and Computer Vision Colloquium*, Prague, Czechia

09/2023 **Efficient construction of training datasets for 2D and 3D data**, *ECMLP-KDD'23 Workshop "Adapting to Change"*, Turin, Italy

06/2023 **Exploiting self-supervised features: unsupervised object localization**, *CVPR'23 Tutorial "Object localization for free"*, Vancouver, Canada

03/2022 **Constructing cost-effective training datasets for the object detection task applied to urban datasets**, *Confiance.ai*, online

01/2022 **Localizing Objects with Self-Supervised Transformers and no Labels**, *IMAGINE team*, Paris, France [online]

06/2021 **Robust image representation for classification and object discovery**, *Quarma team*, Marseille, France [online]

04/2021 **Image representation for retrieval and object discovery: exploiting feature maps**, *Vertigo team, CNAM*, Paris, France [online]

10/2020 **Robust image representation for classification, retrieval and object discovery**, *PhD defense*, Rennes, France

07/2019 **Local Features and Visual Words Emerge in Activations [short]**, *ICVSS'19 (best pres. award)*, Sicily, Italy

05/2019 **Local Features and Visual Words Emerge in Activations**, *VGG group*, Oxford, UK

Research collaborators

valeo.ai	Patrick Pérez, Renaud Marlet, Matthieu Cord, Andrei Bursuc, Spyros Gidaris, Gilles Puy
Google	Cordelia Schmid, Chen Sun, Arsha Nagrani
Inria	Yannis Avrithis, Guillaume Gravier, Ahmet Iscen, Ronan Sicre
Czech Technical University	Ondřej Chum, Giorgos Tolias
Onera	Stéphane Herbin, Adrien Chan Hon Tong

Teaching experience

2024   **Seminar**, *Institut d'Optique Graduate School, France*
Research for autonomous driving: from supervised to frugal learning

2017   **Lectures and practicals, Teaching Assistant**, *INSA Rennes, France*
Algorithms and Programming I

2016–2017   **Lectures and practicals, Teaching Assistant**, *INSA Rennes, France*
Introduction to Database

Working experience

Feb. 2015–Aug. 2015   **Technical Intern**, *Intersec*, Paris, France
Implementation of tools allowing the interoperability between the SNMP protocol and the Intersec Object Packer technology

Summer schools

ICVSS 2019	International Computer Vision Summer School 2019. Sicily, Italy 7-13 July.
VS3 2017	Vision and Sports Summer School 2017. Prague, Czech Republic 21-26 August.
DS3 2017	Data Science Summer School 2017. Paris, France 28 August-1 September.

Languages

English	Fluent	*TOEIC: 965/990 and IELTS: 7.0/9*
Italian	Intermediate	*B1 level*
French	Native	

Computer skills

Programming	Python, Matlab, C++, Java, R, Linux shell
Other	Tensorflow, PyTorch, caffe, MatConvNet, scikit-learn, LaTeX

Full list of publications

[1] O. Siméoni. *Robust image representation for classification, retrieval and object discovery*. PhD thesis, Inria, Université de Rennes 1, 2020.

[2] O. Siméoni, M. Budnik, Y. Avrithis, and G. Gravier. Rethinking deep active learning: Using unlabeled data at model training. In *International Conference on Pattern Recognition (ICPR)*, 2020.

[3] O. Siméoni, Y. Avrithis, and O. Chum. Local features and visual words emerge in activations. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Long Beach, CA, US, 6 2019.

[4] O. Siméoni, A. Iscen, G. Tolias, Y. Avrithis, and O. Chum. Graph-based particular object discovery. *Machine Vision and Applications (MVA)*, 2019.

[5] O. Siméoni, A. Iscen, G. Tolias, Y. Avrithis, and O. Chum. Unsupervised object discovery for instance recognition. In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2018.

[6] O. Siméoni, V. Piras, M. Tomita, and K. Selvarajoo. Tracking global gene expression response in T cell differentiation. *Gene*, 2015.

[7] Oriane Siméoni, Gilles Puy, Huy V. Vo, Simon Roburin, Spyros Gidaris, Andrei Bursuc, Patrick Pérez, Renaud Marlet, and Jean Ponce. Localizing objects with self-supervised transformers and no labels. In *Proceedings of the British Machine Vision Conference (BMVC)*, November 2021.

[8] Antonin Vobecky, David Hurych, Oriane Siméoni, Spyros Gidaris, Andrei Bursuc, Patrick Pérez, and Josef Sivic. Drive&segment: Unsupervised semantic segmentation of urban scenes via cross-modal distillation. In *Proceedings of the European Conference on Computer Vision (ECCV)*, October 2022.

[9] Huy V. Vo, Oriane Siméoni, Spyros Gidaris, Andrei Bursuc, Patrick Pérez, and Jean Ponce. Active learning strategies for weakly-supervised object detection. In *Proceedings of the European Conference on Computer Vision (ECCV)*, October 2022.

[10] Oriane Siméoni, Chloé Sekkat, Gilles Puy, Antonin Vobecky, Éloi Zablocki, and Patrick Pérez. Unsupervised object localization: Observing the background to discover objects. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.

[11] Nermin Samet, Oriane Siméoni, Gilles Puy, Georgy Ponimatkin, Renaud Marlet, and Vincent Lepetit. You never get a second chance to make a good first impression: Seeding active learning for 3d semantic segmentation. In *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2023.

[12] Antonin Vobecky, Oriane Siméoni, David Hurych, Spyridon Gidaris, Andrei Bursuc, Patrick Pérez, and Josef Sivic. Pop-3d: Open-vocabulary 3d occupancy prediction from images. *Advances in Neural Information Processing Systems*, 36, 2023.

[13] Gilles Puy, Spyros Gidaris, Alexandre Boulch, Oriane Siméoni, Corentin Sautier, Patrick Pérez, Andrei Bursuc, and Renaud Marlet. Three pillars improving vision foundation model distillation for lidar. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.

[14] Spyros Gidaris, Andrei Bursuc, Oriane Simeoni, Antonin Vobecky, Nikos Komodakis, Matthieu Cord, and Patrick Pérez. Moca: Self-supervised representation learning by predicting masked online codebook assignments. *TMLR*, 2024.

[15] Oriane Siméoni, Éloi Zablocki, Spyros Gidaris, Gilles Puy, and Patrick Pérez. Unsupervised object localization in the era of self-supervised vits: A survey. *arXiv preprint arXiv:2310.12904*, 2023.

[16] Monika Wysoczańska, Oriane Siméoni, Michaël Ramamonjisoa, Andrei Bursuc, Tomasz Trzciński, and Patrick Pérez. Clip-dinoiser: Teaching clip a few dino tricks. *arXiv preprint arXiv:2312.12359*, 2023.

[17] Monika Wysoczańska, Michaël Ramamonjisoa, Tomasz Trzciński, and Oriane Siméoni. Clip-diy: Clip dense inference yields open-vocabulary semantic segmentation for-free. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision*, 2024.