

Loic Landrieu

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Loic Landrieu

Efficient machine learning for geospatial data

Summary I am a researcher in the computer vision team IMAGINE at LIGM (Ecole des Ponts, CNRS, Univ Gustave Eiffel). I work on efficient machine learning for large-scale spatial data such as 3D point clouds and Earth Observation. I am also an associated researcher at IGN (French Mapping Agency).

Positions and Research Experience

2023–present : Senior Researcher, IMAGINE/LIGM, ENPC, CNRS UGE
Computer vision and geospatial machine learning.

2023–present : Associated Researcher, LASTIG, IGN/ENSG, UGE

2023–present: Ingénieur en chef des ponts, des eaux et des forêts, MTECT

2015–2023 : Researcher, LASTIG, IGN/ENSG, UGE
Structured learning for multi-source remote sensing.

2010–2023: Ingénieur des ponts, des eaux et des forêts, MTECT

2012 : Research Assistant, INRIA
Graphical models for geospatial data.

Advisor: Guillaume Obozinski

2011 : Research Assistant, INRIA
Weakly supervised natural language processing.

Advisor: Guillaume Obozinski

2011 : Research Assistant, ENPC ParisTech
Reviewer recommendations system from the citation graph.

Advisor: Jean-Yves Audibert

Teaching

- 2024 - present : ENPC, *Course Instructor*
Introduction to machine Learning (6 hours).
- 2023 - present : MVA, *Course Instructor*
3D Computer Vision (3 hours).
- 2020 - present : ENSG, *Course Instructor*
Deep Learning for Remote Sensing (18 hours).
- 2020 - 2023 : ENSG, *Course Instructor*
Introduction to Machine Learning (6 hours).
- 2019 : AIMS, Master AMMI, Kigali, Rwanda, *Teaching assistant*
Probabilistic Graphical Models (2 weeks intensive course).
- 2019-2020 : EUROSDR with EduSERV, *Course instructor*
Deep learning for remote sensing (2 week intensive course).
- 2019 : ENPC, Master IMI, *Teaching assistant*
Introduction to machine learning (9 hours).
- 2017–2019 : ENSG, Master PPMD, *Course instructor*
Structured classification (6 hours).
- 2016–2017 : ENSG, Master DesiGeo, *Course instructor*
Introduction to machine learning (18 hours).
- 2014 : ENS Cachan - Master MVA, *Teaching assistant*
Probabilistic graphical models.

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Education

2023, Habilitation à Diriger la Recherche:

Structured Learning of Geospatial Data.

2012 - 2016, ENPC ParisTech - INRIA - ENS Ulm, PhD

PhD in computer science / machine learning: *Learning structured models on weighted graphs, with applications to spatial data analysis.*

Advisors: Francis Bach and Guillaume Obozinski

2011 - 2012, ENS Cachan, MSc

Master MVA, machine learning and computer vision.

2011 - 2012, ENPC ParisTech, MSc

Master IMI, computers science and applied mathematics.

2007 - 2011, Ecole Polytechnique, MSc

Algorithmic and applied mathematics.

Supervision and Community

Supervision

Current students (with percentage of supervision):

Guillaume Astruc	2023-2026	80%	with CNES and IGN
Yohann Perron	2023-2026	60%	with EFEO
Louis Geist	2024-2027	50%	with UZH
Marta Lopez	2024-2027	50%	with ENSIIE

Graduated PhD students :

Damien Robert	2020-2023	90%	now at UZH & ETHZ, CHE
Romain Loiseau	2020-2023	80%	now at French Treasury
Raphael Sulzer	2018-2022	40%	now at INRIA Titane, FRA
Vivien S.F. Garnot	2018-2021	90%	now at UZH & ETHZ, CHE
Stéphane Guinard	2017-2020	50%	now at Univ. of Laval, CAN
Mohamed Boussaha	2017-2020	50%	now at Trimble, FRA

Post-Doctoral Fellow:

Ekaterina Kalinincheva	2021-2023	80%	now at CESBIO
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Engineer:

Abishek Kuriyal	2024	35%	with IGN
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Internships: 18 research & industry interns

Organization

- **Program chair** of the 2022 XXIV ISPRS Congress: 750 published papers, 1500 participants from 69 countries, 200+ area chairs.
- **Organizer** of EarthVision (2021,2022,2023,2024), a leading CVPR workshop centered on the intersection between remote sensing and computer vision.
- **Organizer** of WAML24: Workshop on Archaeology & Machine Learning, 12 speakers, 50+ participants.
- **Co-Chair** of the ISPRS WG *Temporal Geospatial Data Understanding*.
- **Co-Lead** of the IEEE GRSS WG on *Image and Signal Processing*.
- **Program chair** of the 2020 Conference on IGN Research, *AI and Spatial Information*, 800+ participants (virtual).
- **Program chair** of the 2019 Conference on IGN Research, *Temporal Data Modelling*, 250+ participants.
- **Organizer** of Machine Learning Seminars: *Deep Learning for 3D Point Cloud*(2020), *Deep Learning for Environment Monitoring* (2021) , 250+ participants.

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Reviewing & Expertise

- **Area Chair:** CVPR25, ECCV24, IGARSS24
- **Outstanding reviewer:** ICML2021 (top 10%), CVPR2021 (top 10%), ECCV2022 (top 5%), ISPRS Congress 2022 (top 5%), IJPRS 2021-2022 (ranked 7th), ICCV2023 (top 5%).
- **Reviewing:** I also review yearly for NeurIPS, ICLR, BMVC, TPAMI, TIP, IJDS, and SIGGRAPH.
- **Editing:** I am on the editorial advisory board of IJPRS (Elsevier, IF:11.8), reviewing committee of Remote Sensing (MDPI, IF:5.3), and was guest-editor for the special issue 'Multi-Modal Learning in Photogrammetry and Remote Sensing' of IJPRS.
- **Expertise:** ANR Grants, the Dutch Research Council (NWO), and the Canadian Centres of Excellence Mitacs.
- I participated in 4 PhD juries (1 time as reviewer), 8 mid-PhD committees, and 2 lecturer recruitment committees.

Projects and Grants

- Senior IPP Fellowship (single PI) — €375k, awarded in 2025.
- CNES Grants — €65k (PhD, 2023) and €140k (Postdoc, 2025).
- **PEPR SHARP** (WP Leader) — €6M total; €800k to my lab (2023).
- ANR JCJC **READY3D** (single PI) — €194k subsidy.
- ANR **BIOM** Project (Participant) — €723k subsidy.
- AFP Research Grant — €300k subsidy, awarded in 2019.
- PhD Grant from DGA — €100k subsidy, awarded in 2017.

Industry

- I am in the **scientific advisory board** of Samp, a digital twin startup.
- Machine learning consulting with QuantCube: (40k€/year).
- Joint PhD between ENGIE (250k€ budget).
- I offer **technical consulting** to companies who want to apply machine learning methods to their production lines. Notable clients: Helix.Re, Gambi-M, INGEDATA, MewLabs.

Skills

Machine learning

- functional optimization
- deep learning
- LiDAR data
- superspectral imagery
- graphical models
- signal processing
- graph theory
- time-sequences

Computer science

- Python
- PyTorch
- C++
- Octave
- OpenMP
- \LaTeX

Langage

French: Native speaker.

English: Fluent (TOEFL IBT 112, TOEIC 990), native speaker wife.

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Research

I have published 43 articles, including at the best ML/CV conferences:

CVPR: 2018, 2019, 2020🗣️, 2022🗣️, 2024×3, 2025×3

ICCV/ECCV: 2021, 2022, 2023, 2024

ICML/NeurIPS: 2018, 2023, 2424

🗣️ indicates an oral, 🌟 a spotlight, and W a workshop.

Journals

- **2024, IEEE Transactions on Pattern Analysis and Machine Intelligence:** Rafael Sulzer, Renaud Marlet, Bruno Vallet, Loic Landrieu *A survey and benchmark of automatic surface reconstruction from point clouds.*
- **2022, Journal of Applied Earth Observation and Geoinformation:** Ekaterina Kalinicheva, Loic Landrieu, Clement Mallet and Nesrine Chehata, *Predicting Vegetation Stratum Occupancy from Airborne LiDAR Data with Deep Learning.*
- **2022, IJPRS:** Vivien Sainte Fare Garnot, Loic Landrieu, Nesrine Chehata, *Multi-Modal Temporal Attention Models for Crop Mapping from Satellite Time Series.*
- **2021, Remote Sensing:** Félix Quinton, Loic Landrieu, *Crop Rotation Modeling for Deep Learning-Based Parcel Classification from Satellite Time Series.*
- **2020, Photogrammetric Engineering & Remote Sensing:** Sébastien Giordano, Simon Bailly, Loic Landrieu, Nesrine Chehata, *Improved Crop Classification with Rotation Knowledge using Sentinel-1 and-2 Time Series.*
- **2017, IJPRS:** Loic Landrieu, Hugo Raguét, Bruno Vallet, Clément Mallet, and Martin Weinmann, *A Structured Regularization Framework for Spatially Smoothing Semantic Labelings of 3D Point Clouds.*
- **2017, SIIMS/SIAM:** Loic Landrieu and Guillaume Obozinski, *Cut Pursuit: Fast Algorithms to Learn Piecewise Constant Functions on General Weighted Graphs.*
- **2015, SIIMS/SIAM:** Hugo Raguét and Loic Landrieu, *Preconditioning of a Generalized Forward-Backward Splitting and Application to Optimization on Graphs.*

Conferences

- **2025, CVPR 🌟:** Guillaume Astruc, Nicolas Gonthier, Clement Mallet, Loic Landrieu. *AnySat: An Earth Observation Model for Any Resolutions, Scales, and Modalities.*
- **2025, CVPR 🗣️:** Fajwel Fogel, Yohann Perron, Nikola Besic, Laurent Saint-André, Agnès Pellissier-Tanon1, Martin Schwartz, Thomas Boudras, Ibrahim Fayad, Alexandre d'Aspremont, Loic Landrieu, Phillipe Ciais. *Open-Canopy: A Country-Scale Benchmark for Canopy Height Estimation at Very High Resolution.*
- **2025, CVPR :** Nicolas Dufour, David Picard, Vicky Kalogeiton, Loic Landrieu. *Around the World in 80 Timesteps: A Generative Approach to Global Visual Geolocation.*
- **2025, CVPR Workshop :** Abhishek Kuriyal, Elliot Vincent, Mathieu Aubry, Loic Landrieu. *CoDEX: Combining Domain Expertise for Spatial Generalization in Satellite Image Analysis.*
- **2024, NeurIPS Datasets and Benchmarks Track 🌟 :** Yohann Perron, Vladyslav Sydorov, Adam Wijker, Damian Evans, Christophe Pottier, Loic Landrieu *Archaeoscape: Bringing Aerial Laser Scanning Archaeology to the Deep Learning Era.*
- **2024, ECCV:** Guillaume Astruc, Nicolas Gonthier, Clément Mallet, Loic Landrieu, *OmniSat: Self-Supervised Modality Fusion for Earth Observation.*

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- **2024, CVPR:** Romain Loiseau, Elliott Vincent, Mathieu Aubry, Loic Landrieu, *Learnable Earth Parser: Discovering 3D Prototypes in Aerial Scans*.
- **2024, CVPR:** Guillaume Astruc, Nicolas Dufour, Ioannis Siglidis, Constantin Aronssohn, Nacim Bouia, Stephanie Fu, Romain Loiseau, Van Nguyen Nguyen, Charles Raude, Elliot Vincent, Lintao Xu, Hongyu Zhou, Loic Landrieu, *OpenStreetView-5M: The Many Roads to Global Visual Geolocation*.
- **2024, CVPR:** Sidi Wu, Yizi Chen, Samuel Mermet, Lorenz Hurni, Nicolas Gonthier, Konrad Schindler, Loic Landrieu, *StegoGAN: Leveraging Steganography for Non-Bijective Image-to-Image Translation*.
- **2024, 3DV** 🎧 Damien Robert, Hugo Raguét, Loic Landrieu, *Scalable 3D Panoptic Segmentation with Superpoint Graph Clusterin*.
- **2023, NeurIPS Dataset & Benchmark Track.** Anatol Garioud, Nicolas Gonthier, Loic Landrieu et. al., *FLAIR: a Country-Scale Land Cover Semantic Segmentation Dataset From Multi-Source Optical Imagery*.
- **2023, ICCV** Damien Robert, Hugo Raguét, Loic Landrieu, *Efficient 3D Semantic Segmentation with Superpoint Transformer*.
- **2022, ISMIR** 🎧 Romain Loiseau, Baptiste Bouvier, Yann Teytaut, Elliot Vincent, Mathieu Aubry, Loic Landrieu, *A Model You Can Hear: Audio Identification with Playable Prototypes*.
- **2022, ECCV** Romain Loiseau, Mathieu Aubry, Loic Landrieu, *Online Segmentation of LiDAR Sequences: Dataset and Algorithm*.
- **2022, CVPR Workshop on Transformers for Vision** 🎧 Romain Loiseau, Mathieu Aubry, Loic Landrieu, *Helix4D: Online Semantic Segmentation of LiDAR Sequences*.
- **2022, CVPR Workshop Sight and Sound** 🎧 Romain Loiseau, Baptiste Bouvier, Yann Teytaut, Elliot Vincent, Mathieu Aubry, Loic Landrieu, *A Model You Can Hear: Audio Classification with Playable Prototypes*.
- **2022, CVPR Workshop EarthVision** 🎧 Ekaterina Kalinicheva, Loic Landrieu, Clement Mallet and Nesrine Chehata, *Multi-Layer Modeling of Dense Vegetation from Aerial LiDAR Scans*.
- **2022, CVPR** 🎧, **best paper finalist:** Damien Robert, Bruno Vallet, Loic Landrieu, *Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation*.
- **2022, ICPR:** Raphael Sulzer, Loic Landrieu, Alexandre Boulch, Renaud Marlet, Bruno Vallet *Deep Surface Reconstruction from Point Clouds with Visibility Information*,
- **2021, BMVC:** Vivien Sainte Fare Garnot, Loic Landrieu, *Leveraging Class Hierarchies with Metric-Guided Prototype Learning*.
- **2021, 3DV:** Romain Loiseau, Tom Monnier, Mathieu Aubry, Loic Landrieu, *Representing Shape Collections with Alignment-Aware Linear Models*.
- **2021, ICCV:** Vivien Sainte Fare Garnot, Loic Landrieu, *Panoptic Segmentation of Satellite Image Time Series with Convolutional Temporal Attention Networks*.
- **2021, SilviLaser** 🎧: Ekaterina Kalinicheva, Loic Landrieu, Clement Mallet and Nesrine Chehata, *Vegetation Stratum Occupancy Prediction from Airborne LiDAR 3D Point Clouds*.
- **2021, Eurographics SGP:** Raphael Sulzer, Loic Landrieu, Renaud Marlet, Bruno Vallet *Scalable Surface Reconstruction with Delaunay-Graph Neural Networks*
- **2020, 3DV** 🎧: Thomas Chaton, Nicolas Chaulet, Sofiane Horache, Loic Landrieu *Torch-Points3D: A Modular Multi-Task Framework for Reproducible Deep Learning on 3D Point Clouds*

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- **2020, AALTD@ECML-PKDD:** Vivien Sainte Fare Garnot, Loic Landrieu, *Lightweight Temporal Self-Attention for Classifying Satellite Image Time Series*.
- **2020, CVPR 🏆:** Vivien Sainte Fare Garnot, Loic Landrieu, Sebastien Giordano, Nesrine Chehata, *Satellite Image Time Series Classification with Pixel-Set Encoders and Temporal Self-Attention*.
- **2019, ICML Workshop:** Loic Landrieu and Mohammed Boussaha, *Supervised Segmentation with Graph-Structured Deep Metric Learning*.
- **2019, ICML Workshop:** Hugo Raguét and Loic Landrieu, *Parallel Cut Pursuit For Minimization of the Graph Total Variation*.
- **2019, IGARSS 🏆:** Vivien Sainte Fare Garnot, Loic Landrieu, Sebastien Giordano, Nesrine Chehata, *Time-Space Tradeoff in Deep Learning Models for Crop Classification on Satellite Multi-Spectral Image Time Series*.
- **2019, CVPR:** Loic Landrieu and Mohammed Boussaha, *Point Cloud Over-segmentation with Graph-Structured Deep Metric Learning*.
- **2019, ISPRS Workshop:** Stephane Guinard, Loic Landrieu, and Bruno Vallet *Piecewise-planar Approximation Of Large 3D Data As Graph-Structured Optimization*.
- **2018, ICML:** Hugo Raguét and Loic Landrieu, *Cut-Pursuit Algorithm for Regularizing Nonsmooth Functionals with Graph Total Variation*.
- **2018, IGARSS:** Sébastien Giordano, Simon Bailly, Landrieu, Loic, and Nesrine Chehata, *Temporal Structured Classification of Sentinel 1 and 2 Time Series for Crop Type Mapping*.
- **2018, CVPR:** Loic Landrieu and Martin Simonovski, *Large-scale Point Cloud Semantic Segmentation with Superpoint Graphs*.
- **2017, IGARSS 🏆:** Loic Landrieu, Clément Mallet, and Martin Weinmann, *Comparison of Belief Propagation and Graph-Cut Approaches for Contextual Classification of 3D LiDAR Point Cloud Data*.
- **2017, ISPRS:** Stéphane Guinard and Loic Landrieu, *Weakly Supervised Segmentation-Aided Classification of Urban Scenes From 3D LiDAR Point Clouds*.
- **2016, AISTATS:** Loic Landrieu and Guillaume Obozinski, *Cut Pursuit: Fast Algorithms to Learn Piecewise Constant Functions*.
- **2014, UAI:** Loic Landrieu and Guillaume Obozinski, *Continuously Indexed Potts Models on Unoriented Graphs*.

Software Development

I have an active github profile github.com/loicland, with several open-source repositories:

- [] [loicland/superpoint-graph](https://github.com/loicland/superpoint-graph) 711★ 213🔗
- [] [loicland/cut-pursuit](https://github.com/loicland/cut-pursuit) 56★ 17🔗
- [] [loicland/point-cloud-regularization](https://github.com/loicland/point-cloud-regularization) 35★ 14🔗

I was advisor for over 25 open-source projects, including:

- [] [torch-points3d/torch-points3d](https://github.com/torch-points3d/torch-points3d) 2250★ 364🔗
- [] [drprojects/DeepViewAgg](https://github.com/drprojects/DeepViewAgg) 204★ 23🔗
- [] [drprojects/superpoint_transformer](https://github.com/drprojects/superpoint_transformer) 550★ 38🔗
- [] [VSainteuf/pytorch-psetae](https://github.com/VSainteuf/pytorch-psetae) 146★ 27🔗
- [] [drprojects/superpoint_transformer](https://github.com/drprojects/superpoint_transformer) 144★ 19🔗
- [] [VSainteuf/pastis-benchmark](https://github.com/VSainteuf/pastis-benchmark) 113★ 32🔗
- [] [VSainteuf/utae-paps](https://github.com/VSainteuf/utae-paps) 97★ 46🔗
- [] [VSainteuf/lightweight-temporal-attention](https://github.com/VSainteuf/lightweight-temporal-attention) 69★ 16🔗
- [] [romainloiseau/Helix4D](https://github.com/romainloiseau/Helix4D) 49★ 7🔗
- [] [romainloiseau/HelixNet](https://github.com/romainloiseau/HelixNet) 40★ 4🔗

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Datasets

My students and I have curated and released several large-scale, open-access datasets relating to:

🌲 forestry, ✳️ LiDAR, 🗺️ satellite imagery, 🕒 historical data, and 🌐 with a global scope.

- 🕒 **FRx400 [2025]** 350 years of French historical maps, with partial annotations.
- 🌲✳️🗺️ **Open-Canopy [CVPR 2025]**. The first open-access and country-scale benchmark for canopy height estimation with very high resolution satellite images and ALS-derived height maps.
- 🌲🗺️ **TreeSatAI-TS [ECCV24]**. Augmentating TreeSatAI with optical and radar time series.
- 🌲✳️ **WildForest3D [CVPRW22]**. A LIDAR dataset focused on the multi-layer structure of natural forests.
- 🌲✳️ **StrataNet [JAG22]**. A LIDAR forestry dataset with weak annotations.
- 🗺️ **FLAIR [NeurIPS23 B&T]**. The largest multimodal land cover dataset with very high resolution annotations, contains over 20B individual annotations.
- 🗺️ **PASTIS [ICCV21]**. The first satellite time series dataset with panoptic annotations for crop mapping. Later augmented with radar [IJPRS22] and VHR images [ECCV24].
- ✳️ **HelixNet [ECCV22]** The largest LiDAR time series dataset for real-time 3D analysis.
- 🗺️ **StegoGAN [CVPR24]** A benchmark for non-bijective image translation.
- 🌐 **OpenStreetView-5M [CVPR24]**. The first open-access and large-scale global dataset of street view images for visual geolocation. Contains 5M images from 225 countries.

Talks in Conferences and Invited Talk

Exchanging ideas and presenting my work is my favourite part of research—but not on Zoom.

🗣️ oral 🗝️ keynote 🎓 tutorial 📄 poster ⚙️ organization ~

2025

- 🗝️ **GDR IASIS**, Toulouse, keynote
Efficient 3D Deep Learning
- ⚙️ **CVPRW EarthVision**, co-organizer
- 🗣️ **Google Deep Mind**, Paris, invited talk
Towards a Universal Representation of Earth Observation
- 🗣️ **ETH AI Center**, invited talk
Advances in Global Visual Geolocation
- 🗣️ **EGU**, Vienna, oral highlight
Towards a Universal Representation of Earth Observation
- 🗣️ **EPFL ECEO lab**, Lausanne, invited talk
Towards a Universal Representation of Earth Observation
- 🗣️ **IPP Workshop**, invited talk
Towards a Universal Representation of Earth Observation

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2024

- 🎤 **LEESU, ENPC**, invited talk
Deep learning for Time Series Analysis
- ⚙️ **WAML24**, co-organizer
Workshop on Archaeology & Machine Learning
- ⚙️ **CVPRW Earth Vision**, co-organizer
- 🎤 **G2AS'24**, invited talk
Deep Learning for Satellite Imagery
- 🎤 **IA Club of SRI/ECOLAB**, invited talk
Deep Learning for Environment Monitoring
- 🎤 **ISPRS TCII online talk series**, invited talk
Efficient 3D Deep Learning

2023

- 🎤 **UPEC "IA, données et territoires"**, invited talk
Deep Learning fo Environment Monitoring
- 🎓 **NormaSTIC Graph Learning Summer School**, invited talk
Efficient 3D Deep Learning
- 🔑 **Univ. Rennes 3D Point Clouds in Geoscience**, invited talk
3D Deep Learning for Remote Sensing
- ⚙️ **CVPRW Earth Vision**, co-organizer

2022

- 🔑 **3rd EuroSDR Workshop on Point Cloud Processing**, invited talk
3D Deep Learning
- ⚙️ **CVPRW Earth Vision**, co-organizer & oral presentation
Deep Learning for Forestry
- 🎤 **I2M Univ Aix-Marseille**, invited talk
3D Deep Learning
- 🎤 **XXIV ISPRS Congress**, invited talk
Temporal Attention for Satellite Time Series
- 🎓 **XXIV ISPRS Congress**, tutorial
3D Deep Learning for Remote Sensing
- ⚙️ **XXIV ISPRS Congress**, program chair
- 🎤 **GeoVic LIX**, invited talk
Geospatial Deep Learning
- 🎤 **Valeo Research**, invited talk
3D Structured Learning
- 🎤 **IMAGINE, ENPC**, invited talk
Geospatial Deep Learning

2021

- 🎤 **MACLEAN (ML for EO)**
3D Deep Learning for Remote Sensing
- 🔑 **ICCV Workshop Urban3D**, keynote speaker
3D Deep Learning : Beyond Scaling Windows
- ⚙️ **Seminar on Deep Learning for Environment Monitoring**, online
organizer: 6 speakers, 250+ participants
- 🎤 **LiDAR Workshop Lyon**, invited talk
3D Deep Learning for Remote Sensing
- 🎤 **ISPRS congress 2021**, invited talk
3D Deep Learning for Remote Sensing
- ⚙️ **CVPRW Earth Vision**, co-organizer
- 🎤 **Institute for Computational Science at UZH**, invited talk
Advances in Deep Learning for 3D Point Clouds Analysis

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 **Sony CSL Paris**, invited talk
Advances in Deep Learning for 3D Point Clouds Analysis
2020

 **3DV**, virtual, oral presentation
Torch-Points3D: A Modular Multi-Task Framework-for Reproducible Deep Learning on 3D Point Clouds.

 **AALTD**, virtual, poster
Lightweight Temporal Self-Attention for Classifying Satellite Image Time Series.

 **CVPR**, virtual, oral presentation
Satellite Image Time Series Classification with Pixel-Set Encoders and Temporal Self-Attention.

 **Conference on IGN Research**, virtual, oral presentation
Deep Learning for 3D Analysis.

 **Conference on IGN Research**, France, organizer
Theme: AI and Spatial Information.


 **EuroSDR Marne-La-Vallée**, France, lecturer
Deep Learning for Remote Sensing.

 **Quant Cube Technology** Paris, France, invited talk
Recent Advances in Large-Scale Learning for Remote Sensing.

2019

 **Norwegian Institute of Bioeconomy Research** Oslo, seminar
Machine Learning and Deep Learning for Practitioners.


 **2nd International Workshop Point Cloud Processing**, Stuttgart, keynote
Superpoint-Based Methods for 3D Point Clouds Analysis.

 **Valeo.ai Research**, Paris, invited talk
Superpoint-Based Methods for 3D Point Clouds Analysis.


 **Journées Nationales de la Recherche en Robotique**, France, keynote
Deep Learning for Point Cloud Semantic Segmentation.


 **ICML Graph Reasoning Workshop**, Long Beach, USA, poster
Supervised Segmentation with Graph-Structured Metric Learning.


 **ICML Graph Reasoning Workshop**, Long Beach, USA, poster
Parallel Cut Pursuit For Minimization of the Graph Total Variation

 **CVPR**, Long Beach, USA, poster. Point Cloud Oversegmentation with Graph-Structured Metric Learning.

 **CVPR 3D Scene Understanding Workshop**, Long Beach, USA Point Cloud Oversegmentation with Graph-Structured Metric Learning.

 **ISPRS Geospatial week**, Univ. of Twente, Netherlands, tutorial
Deep Learning for Point Clouds Semantic Segmentation.


 **Univ. Montpellier**, France, invited talk
Cut Pursuit for Optimizing with Graph-Structured Regularizers.

 **Facebook AI Research**, Paris, invited talk
Optimization and Learning with Graph Sparsity

 **JURSE 2019**, Vannes, France, tutorial
Deep Learning for Point Clouds Semantic Segmentation.

 **Univ. Paris-Est**, France, invited talk
Deep Learning for 3D Point Cloud Semantic Segmentation.

 **Conference on IGN Research**, France, organizer
Theme: Temporal Data Analysis

 **EuroSDR** Barcelona, Spain, lecturer
Deep Learning for 3D Point Clouds Analysis.

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2018

- 🎤 **Univ. of Erlangen**, Germany, invited talk
Deep Metric Learning on Point Clouds.
- 🎓 **Optimization in Image Analysis Summer School** by DTU and DIKU,
Copenhagen, lecturer
- ✉️ **ICML**, Stockholm, Sweden, poster
Cut-Pursuit Algorithm for Regularizing Non smooth Functionals with Graph
Total Variation.
- 🎤 **RFIAP**, ENSG, France, oral
Large-scale Point Cloud Semantic Segmentation with Superpoint Graphs.
- ✉️ **CVPR**, Salt lake City, USA, poster
Large-scale Point Cloud Semantic Segmentation with Superpoint Graphs.
- 🎤 **IGN Research Conference**, ENSG, France, oral
Large-scale Point Cloud Semantic Segmentation with Superpoint Graphs.
- 🎤 **SIAM symposium** in Bologna, Italy, invited talk
Cut Pursuit for Optimizing with Graph-Structured Regularizers.
- 🎤 **NoMADS, Politecnico di Milano**, Italy, invited talk
Cut Pursuit for Optimizing with Graph-Structured Regularizers.
- 🎤 **FOSS-4G**, ENSG, France, oral
Presentation of the SuperPointGraph Repository.

2017

- ⚙️ **IGN, 3D Analysis Symposium**, France, organizer
Deep Learning for 3D Point Clouds.
- ✉️ **Polytechnique Data Science Summer School**, France, poster
Structured Optimization for Remote Sensing Applications.
- 🎤 **IGN Research Conference**, France, oral
Structured Optimization for Remote Sensing Applications.

2016

- 🎤 **GDR ISIS**, Paris, France, oral
 ℓ_0 -cut pursuit algorithm for graph-structured greedy optimization.
- ✉️ **AISTATS**, Cádiz, Spain, poster
Cut Pursuit: Fast Algorithms to Learn Piecewise Constant Functions.

2015

- ✉️ **UAI**, Quebec City, Canada, poster
Continuously Indexed Potts Models.