Email damien.robert@uzh.ch | **Website** drprojects.github.io | **Github** drprojects | **ORCID** 0000-0003-0983-7053 | **Scholar** Bmgo5wMAAAAJ | **Linkedin** damienrobert91

Damien Robert

Deep Learning for Remote Sensing & Environment

Summary I am a postdoctoral researcher in the EcoVision lab at University of Zurich, collaborating with Jan D. Wegner. I am broadly interested in deep learning for real-world data and impactful applications, with a taste for approaches making deep learning research socially and environmentally beneficial, accessible and reproducible. My recent work focuses efficient learning on large-scale 3D point clouds.

Positions

2024 – Now : *Postdoctoral Researcher*, EcoVision lab, University of Zurich
Deep learning for remote sening and environment
PI: Jan D. Wegner

2020 – 2024 : *PhD student*, ENGIE Lab CRIGEN - LASTIG, IGN/ENSG *3y 4m*
Efficient learning on large-scale 3D point clouds
Advisors: Loïc Landrieu and Bruno Vallet

2017 - 2020 : *R&D Engineer*, SIRADEL, ENGIE *2y 8m*
Deep Learning on large-scale, terrestrial/aerial, indoor/outdoor 3D/2D data

2017 : *Co-Founder*, Inspirama *1y*
Website gathering book recommendations from inspiring people

2015 : *R&D Intern*, Dassault Systemes *6m*
Dimensionality reduction and dynamic system modeling

2014 : *R&D Intern*, Dassault Systemes *6m*
UX design

Education

2022 : International Computer Vision Summer School *Sicily, Italy*
CV courses by world-renowned experts in academia and industry

2011 - 2015 : Ecole Centrale Lyon, MSc *Lyon, France*
Mathematics, Computer Science, Mechanics, Signal Processing, Automation

2017 : CNRS AI Fall School *Lyon, France*
Multi-disciplinary course for AI students and researchers

2017 : Udacity, Machine Learning Engineer Nanodegree *MOOC*
Machine learning, mathematics, computer science

2015 : Coursera *MOOC*
Introduction to Machine Learning

2009 - 2011 : Chateaubriand High School *Rennes, France*
Preparation course for exams to enter French engineering schools

2006 - 2009 : Victor & Helene Basch High School *Rennes, France*
High School Diploma with honours, specialized in Sciences and English

Research Experience

Publications

2024

3DV Oral : Damien Robert, Hugo Raguet, Loic Landrieu, *Scalable 3D Panoptic Segmentation as Superpoint Graph Clustering*

2023

ICCV : Damien Robert, Hugo Raguet, Loic Landrieu, *Efficient 3D Semantic Segmentation with Superpoint Transformer*

2022

CVPR Best paper finalist : Damien Robert, Bruno Vallet, Loic Landrieu, *Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation*

Reviewing

2023

CVPR, CVPRW Earth Vision

2022

ISPRS, CVPRW Earth Vision

Teaching

2023 : ENSG-IGN *(M2 - 13 hours)*

Course on Deep Learning for Remote Sensing

2022 : XXIV ISPRS Congress *(Researchers - 1 day)*

Tutorial on Deep Learning for Remote Sensing

2022 : ENGIE CRIGEN lab *(Researchers - 1 day)*

Tutorial on 3D Deep Learning, Torch-Points3D & DeepViewAgg

2022 : ENSG-IGN *(M2 - 9 hours)*

Course on Deep Learning for Remote Sensing

2020 : Ecole Polytechnique *(M1 - 12 hours)*

Course on Deep Learning for Computer Vision

Open-Source Repositories

drprojects/superpoint_transformer	287 ★	49
drprojects/DeepViewAgg	210 ★	23
drprojects/point_geometric_features	31 ★	4
drprojects/nora	17 ★	

Conferences and Invited Talks

Conference oral | Poster | Invited talk | Interview

2024

3DV — *Davos, Switzerland*
Scalable 3D Panoptic Segmentation as Superpoint Graph Clustering

2023

Ecole des Ponts, IMAGINE lab — *Paris, France*
Efficient Learning on Large-Scale 3D Point Clouds

ICCV — *Paris, France*
Efficient 3D Semantic Segmentation with Superpoint Transformer

ETH Zürich, Photogrammetry and Remote Sensing lab — *Zürich, Switzerland*
Efficient 3D Semantic Segmentation with Superpoint Transformer

ENGIE CRIGEN lab — *Paris, France*
Efficient 3D Semantic Segmentation with Superpoint Transformer

Samp R&D lab — *Paris, France*
Efficient 3D Semantic Segmentation with Superpoint Transformer

University of Zürich, EcoVision lab — *Virtual*
Efficient 3D Semantic Segmentation with Superpoint Transformer

Valeo.ai — *Paris, France*
Efficient 3D Semantic Segmentation with Superpoint Transformer

2022

IGN, LASTIG lab — *Paris, France*
Self-Supervised Learning for Computer Vision

Bundesamt für Kartographie und Geodäsie (BKG) — *Paris, France*
Presenting IGN's research on large-Scale 2D and 3D Learning

International Computer Vision Summer School — *Sicily, Italy*
Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation

CV News — *New Orleans, US*
Interviewed by the CV News journal for its *Best of CVPR'22* issue

CVPR — *New Orleans, US*
Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation

Ecole des Ponts, IMAGINE lab — *Paris, France*
Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation

XXIV ISPRS Congress — *Nice, France*
Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation

Ecole Polytechnique, LIX lab — *Paris, France*
Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation

AI4GEO project seminar — *Virtual*
Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation

IGN-ENSG Research Days — *Paris, France*
Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation

GDR ISIS seminar — *Virtual*
Learning Multi-View Aggregation In the Wild for Large-Scale 3D Semantic Segmentation

2021

IGN-ENSG Research Days — *Virtual*
Multimodal learning on point clouds and images

Skills, Interests and Personal

Research Topics

- Computer vision
- Deep learning
- LiDAR data
- Large-scale 3D data
- Multimodal learning
- Efficient learning
- Superpoint-based learning
- Remote sensing

Tools

Python
PyTorch
PyTorch Lightning
PyTorch Geometric
Hydra
scikit-learn
Plotly
Weights & Biases
Blender
C++
Git
Latex
Linux

Languages

French	Native
English	Fluent
Spanish	Intermediate

International Experience

2015-2016	Backpacking
2014-2015	Providence, RI

Personal Interests