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Damien Robert

PhD Student – 3D Deep Learning

Summary I am a PhD student in the CSAI team of the ENGIE Lab CRIGEN and the machine learning team STRUDEL of the LASTIG lab at IGN—the French Mapping Agency-under the supervision of Loïc Landrieu and Bruno Vallet. 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 on multimodal and efficient learning on large-scale 3D point clouds.



Positions

2020 - Present: PhD student, ENGIE Lab CRIGEN - LASTIG, IGN/ENSG

Multimodal, multi-task learning on large 3D point clouds

Advisors: Loïc Landrieu and Bruno Vallet

2017 - 2020 : R&D Engineer, SIRADEL, ENGIE

Deep Learning on large-scale, terrestrial/aerial, indoor/outdoor 3D/2D data

2017: Co-Founder, Inspirama

Website gathering book recommendations from inspiring people

2015 : R&D Intern, Dassault Systemes

Dimensionality reduction and dynamic system modeling

2014: R&D Intern, Dassault Systemes

UX design

Education

2022 : Internationa	1	0
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CV courses by world-renowned experts in academia and industry

2011 - 2015 : Ecole Centrale Lyon, MSc

Mathematics, Computer Science, Mechanics, Signal Processing, Automation

2017: CNRS AI Fall School

Multi-disciplinary course for AI students and researchers

2017: Udacity, Machine Learning Engineer Nanodegree

Machine learning, mathematics, computer science

2015: Coursera

Introduction to Machine Learning

2009 - 2011 : Chateaubriand High School

Preparation course for exams to enter French engineering schools

2006 - 2009 : Victor & Helene Basch High School

High School Diploma with honours, specialized in Sciences and English

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6m

Sicily, Italy

Lyon, France

Lyon, France

MOOC

MOOC

Rennes, France

Rennes, France

Research Experience



Publications

2023

Under review: Damien Robert, Hugo Raguet, Loic Landrieu, Efficient 3D Semantic Segmentation with Hierarchical Superpoint Transformers

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

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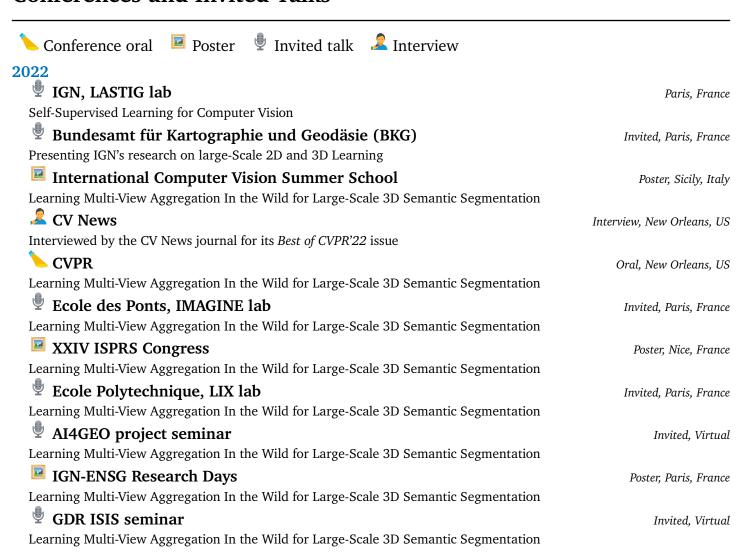
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Conferences and Invited Talks

2021

IGN-ENSG Research Days

Multimodal learning on point clouds and images



Oral, Virtual

Skills, Interests and Personal

Research Topics

- Computer vision
- Deep learning
- LiDAR data
- Large-scale 3D data
- Multimodal learning
- Efficient learning
- Segment-based learning
- Self-supervised learning

Tools



Python



PyTorch



PyTorch Lightning



PyTorch Geometric



Hydra



scikit-learn



Plotly



Blender C++



Git



Latex

Linux

Languages

French

Native

English

Fluent

Spanish Intermediate

International Experience

2015-2016 Sackpacking

2014-2015

Providence, RI

Personal Interests

