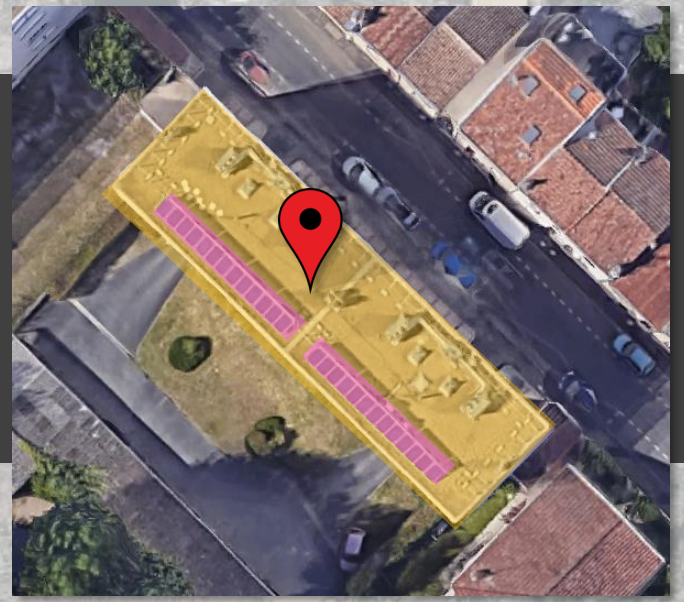
le wagon

Le Wagon Bordeaux
Batch 1119 – Datascience

Panomapper



Luc Rolland, Xavier Soors, Alexandre Cessac, Samuel Etienne

18 March 2023
Demo day

Process overview

USER INPUT

Address

DATA

— 5 km —

Satellite images

'Tiles'

DEEP LEARNING MODEL

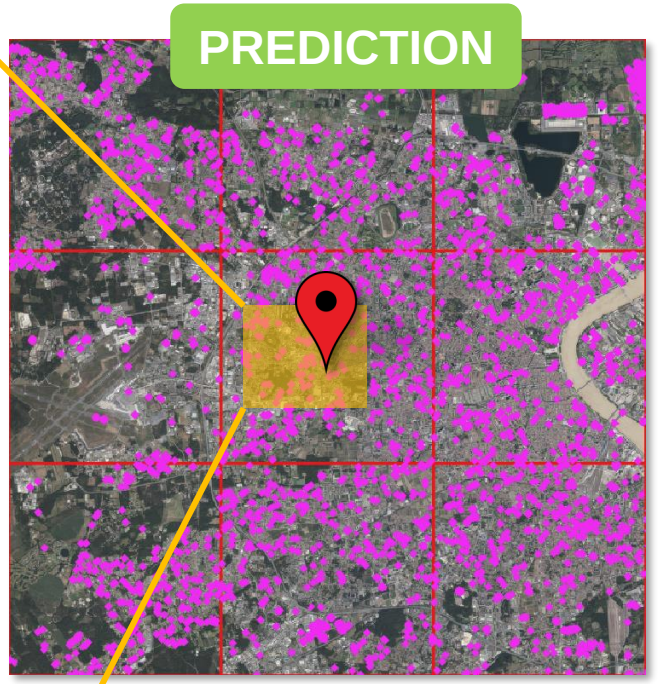
PREDICTION

Detection map

'Masks'

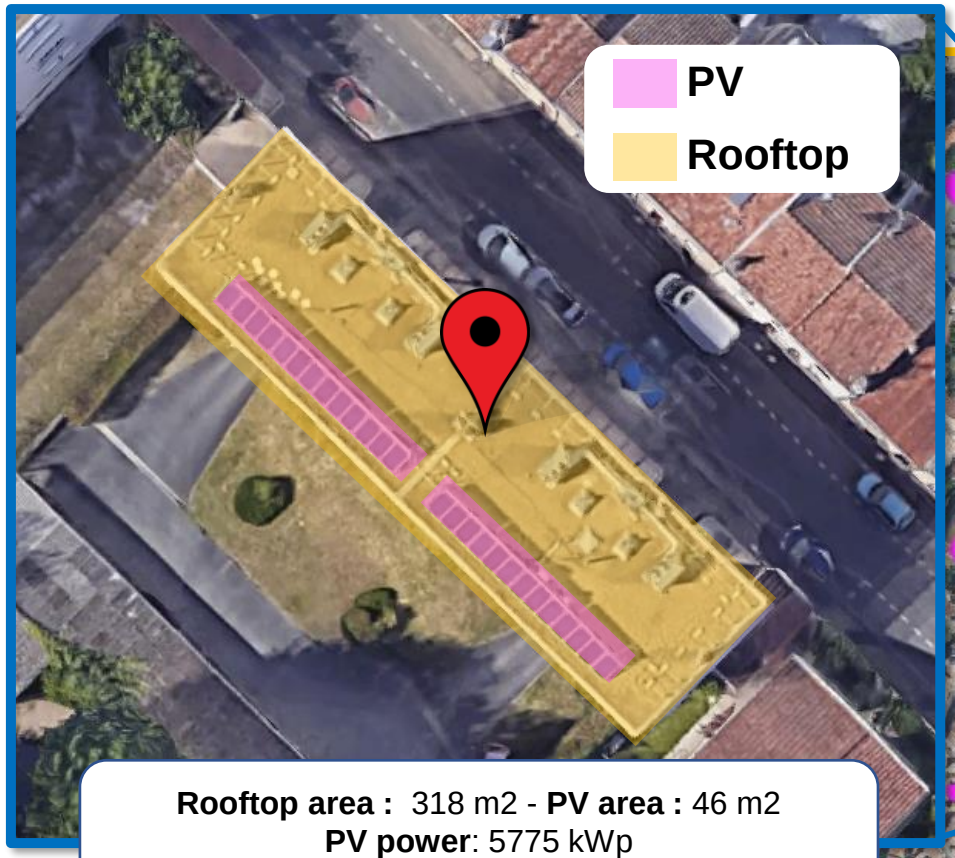
Process overview

Neighbourhood map



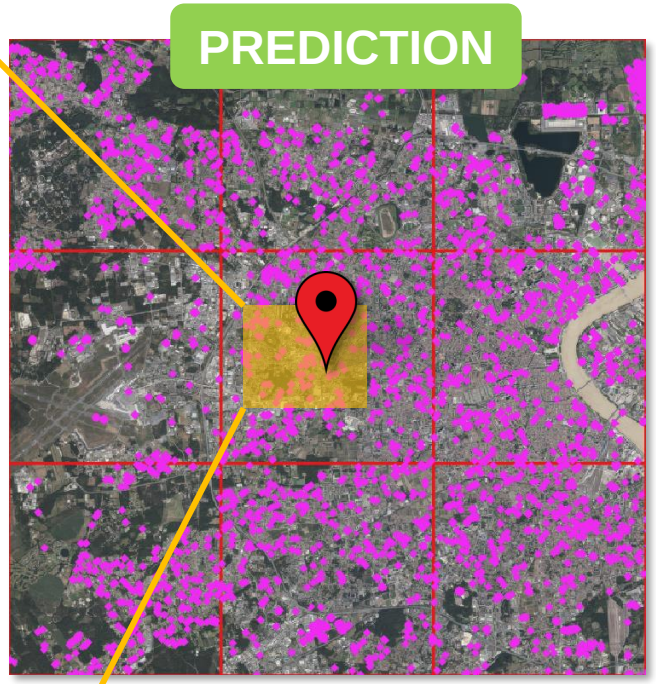
Detection map

Process overview



Rooftop area : 318 m2 - **PV area :** 46 m2
PV power: 5775 kWp
Potential power: 37500 kWp

Potential estimation



Detection map

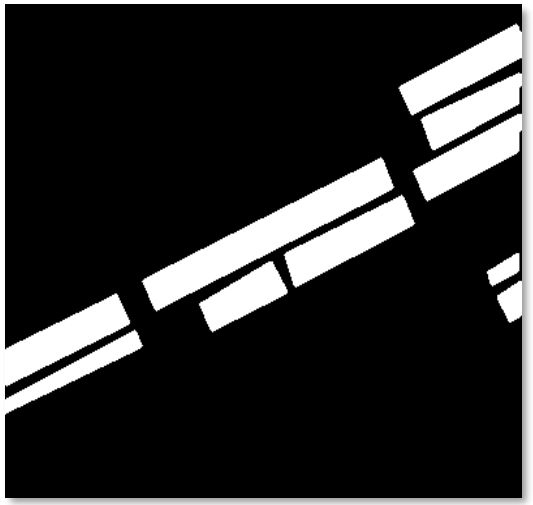
Pre-trained model

	Campaign 1	Campaign 2
Images	28807	17325
Installations	13303	7686
Provider	Google	IGN
GSD	0.1m/pixel	0.2m/pixel
Associated metadata	8019	3658

in France!

Google/IGN Images

+



Masks

BDPV

Kasmi et al. 2023, Nature

OPEN

DATA DESCRIPTOR

A crowdsourced dataset of aerial images with annotated solar photovoltaic arrays and installation metadata

Gabriel Kasmi[1,2,5], Yves-Marie Saint-Drenan[1,5], David Trebosc[3,5], Raphaël Jolivet[1,5], Jonathan Leloux[4], Babacar Sarr[4] & Laurent Dubus[2]

Photovoltaic (PV) energy generation plays a crucial role in the energy transition. Small-scale, rooftop

Model workflow

STEP 1
Preprocessing

STEP 2
Image Classification
PV Detection

STEP 3
Segmentation

STEP 4
Filtering

Thumbnails

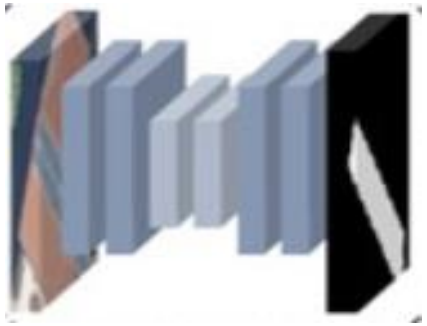
Thumbnails

CNN

Mayer et al., 2022

'Positive' thumbnails

Segmentation (U-net)



Mayer et al., 2022

Raw masks

BDTopo

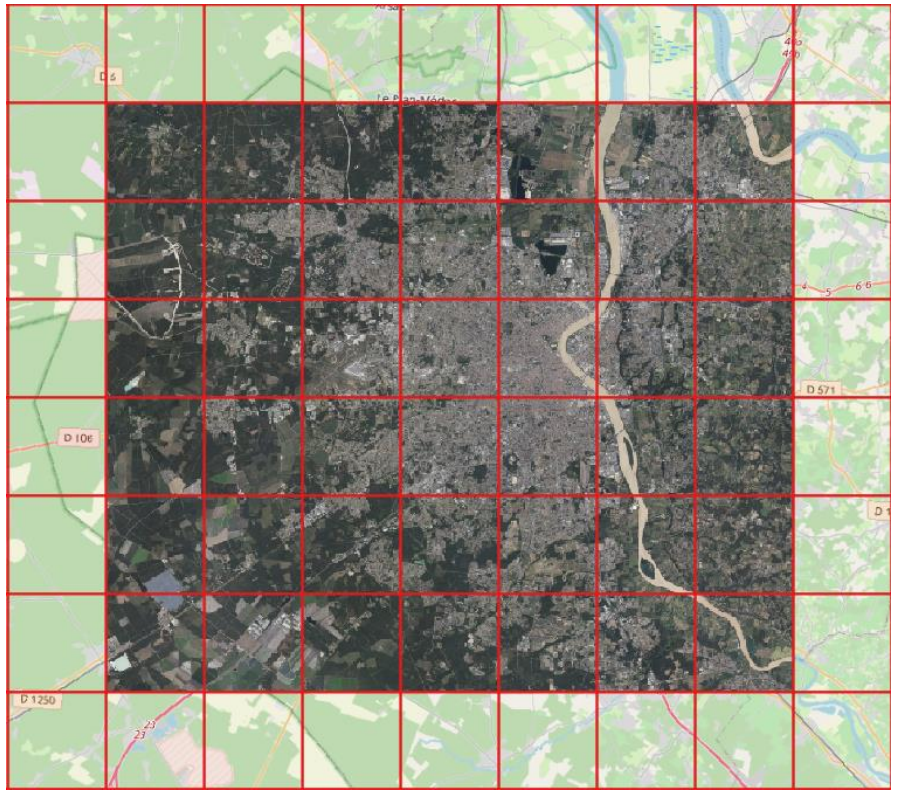
Filtered masks

Model deployment

DATA **Cloud Storage**

Cloud Storage

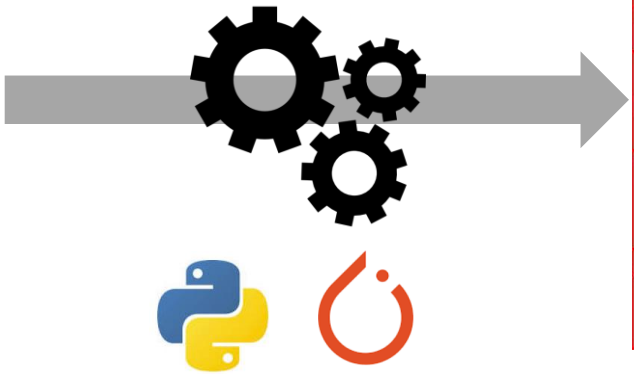
DETECTION **GeoJSON**



Virtual Machine
GPU

Google Compute Engine

MODEL



Bordeaux greater area

1050 km2 *(42 tiles)*

7843 detections

Demo streamlit 

Launch Panomapper!

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Merci !

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