

INACITY - INvestigate and Analyze a CITY

Artur André Oliveira, Roberto Hirata Jr.

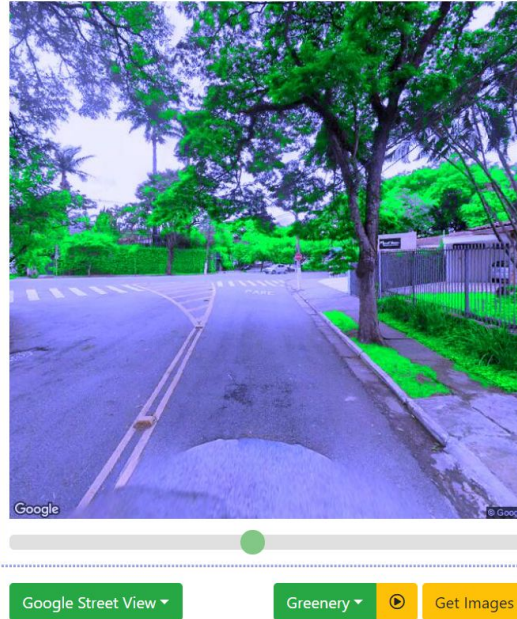
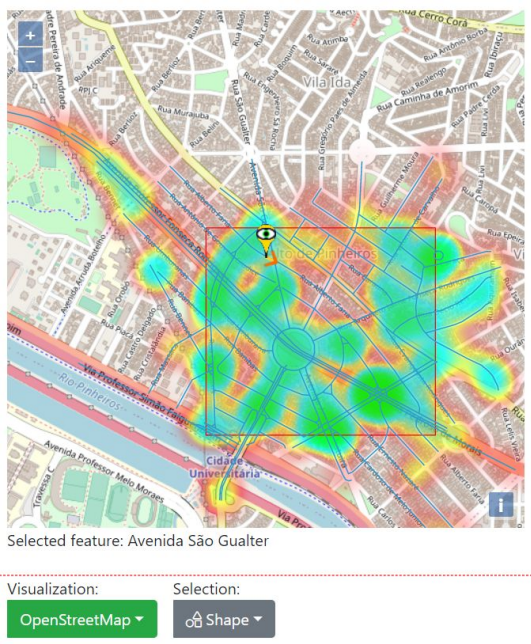
- Collect and integrate street-level imagery with Geolocated data and image processing algorithms

Contato: arturao@ime.usp.br



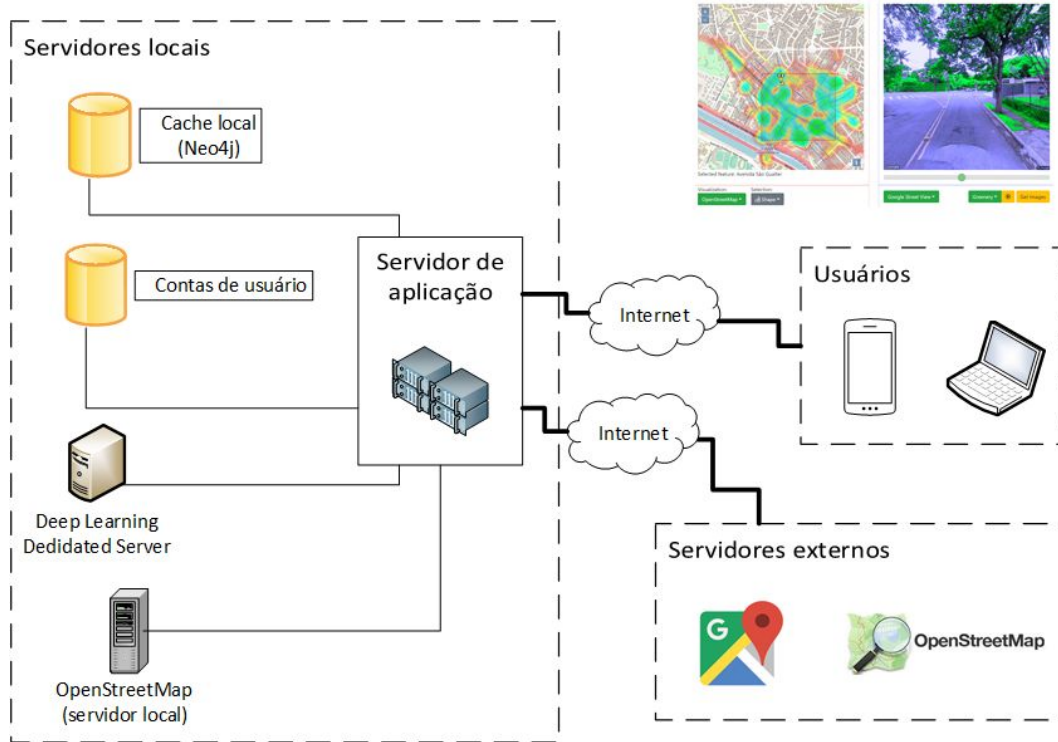
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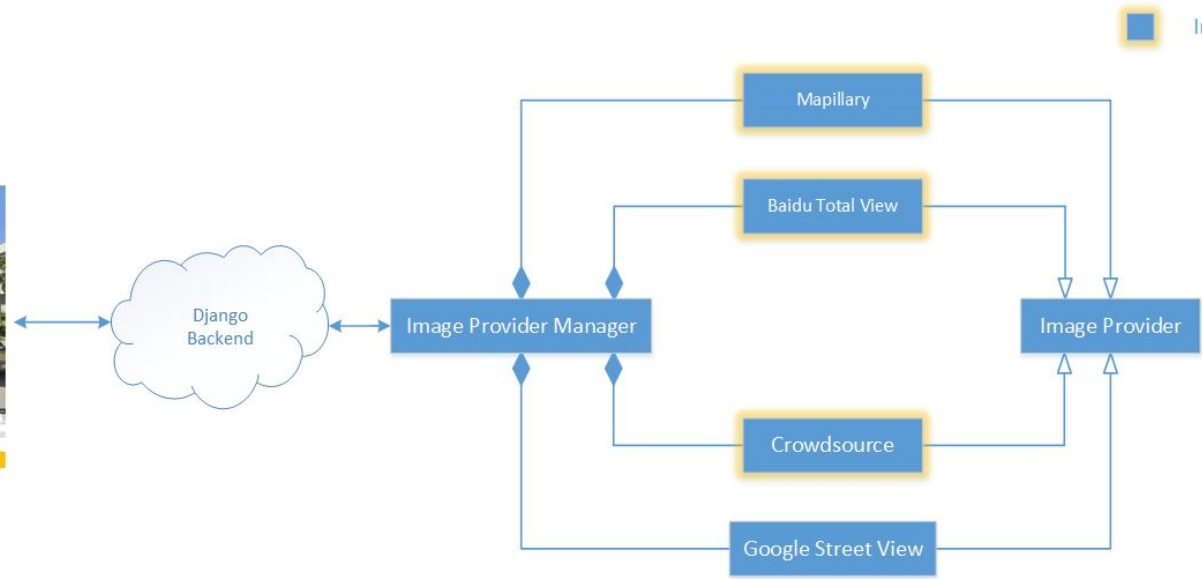
inacity.org

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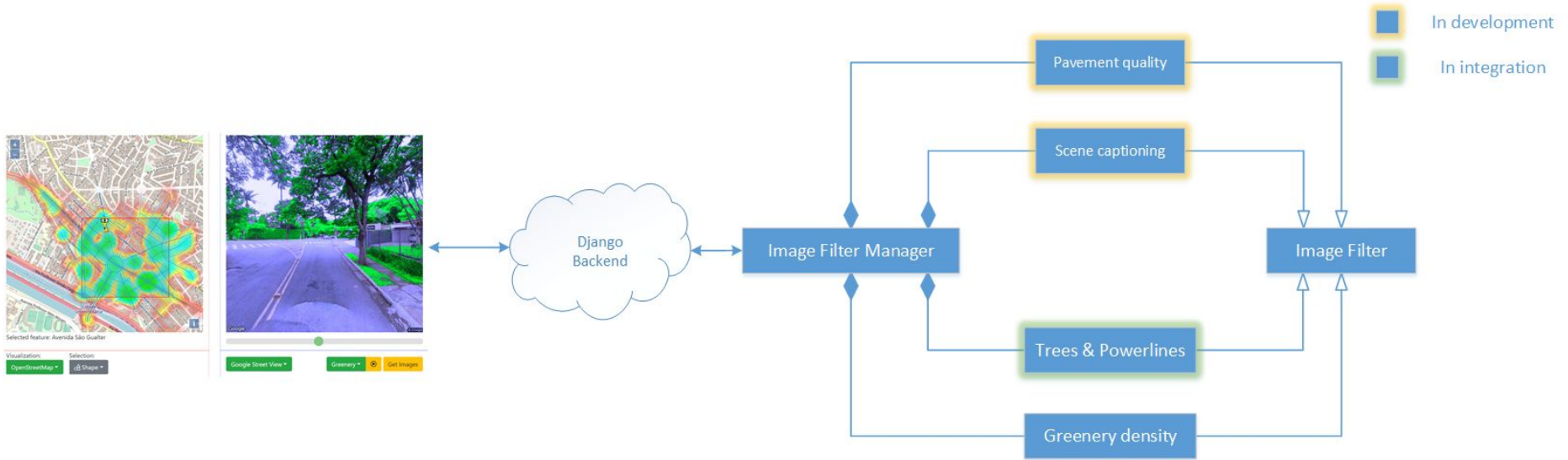


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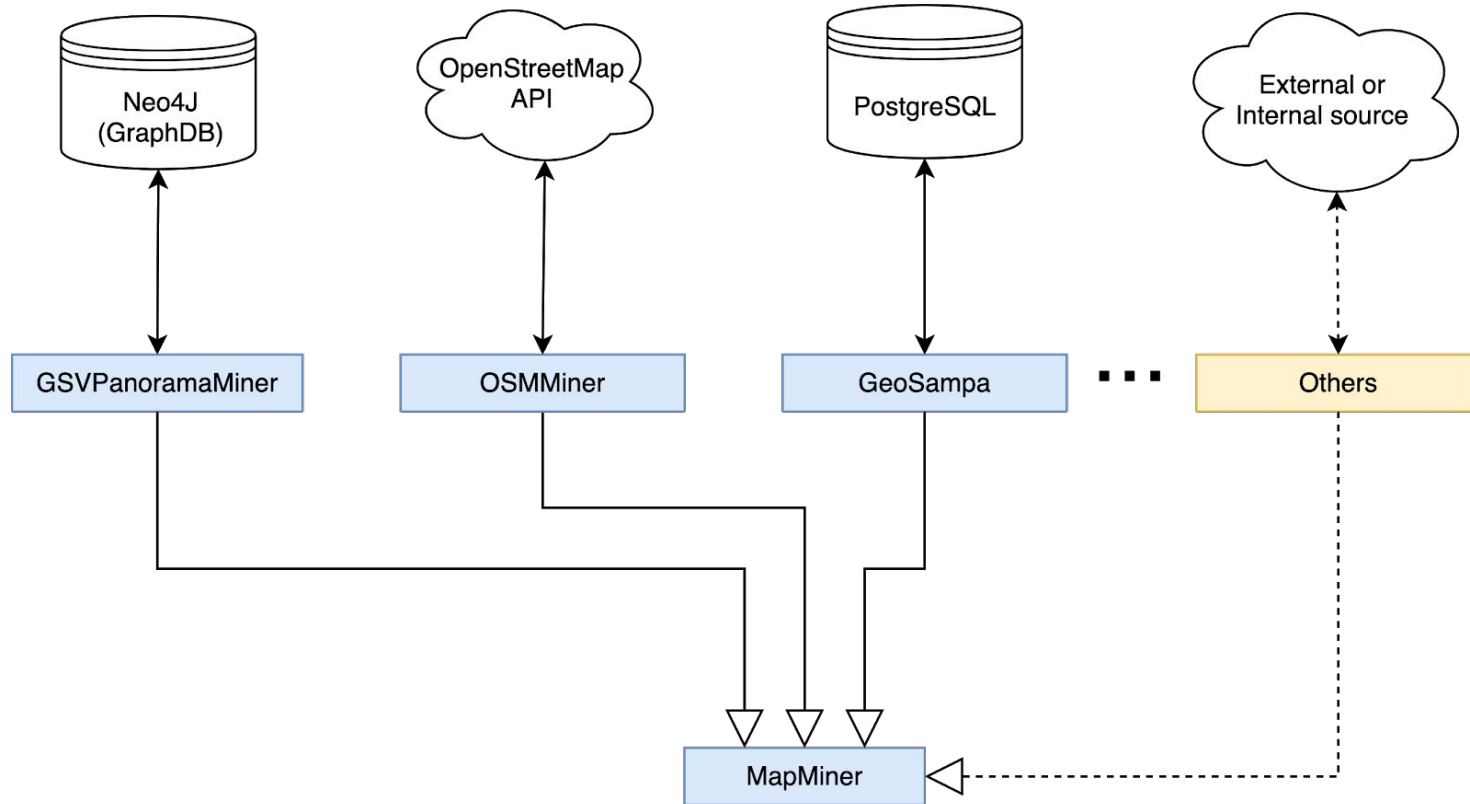
 In development



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django

Profile	
FK user	User
gsv_api_key	str (39)
use_alternative_gsv_api_key	bool=False
gsv_url_signing_secret	str (28)
use_alternative_gsv_signing_secret	bool=False

User	
username	
password	

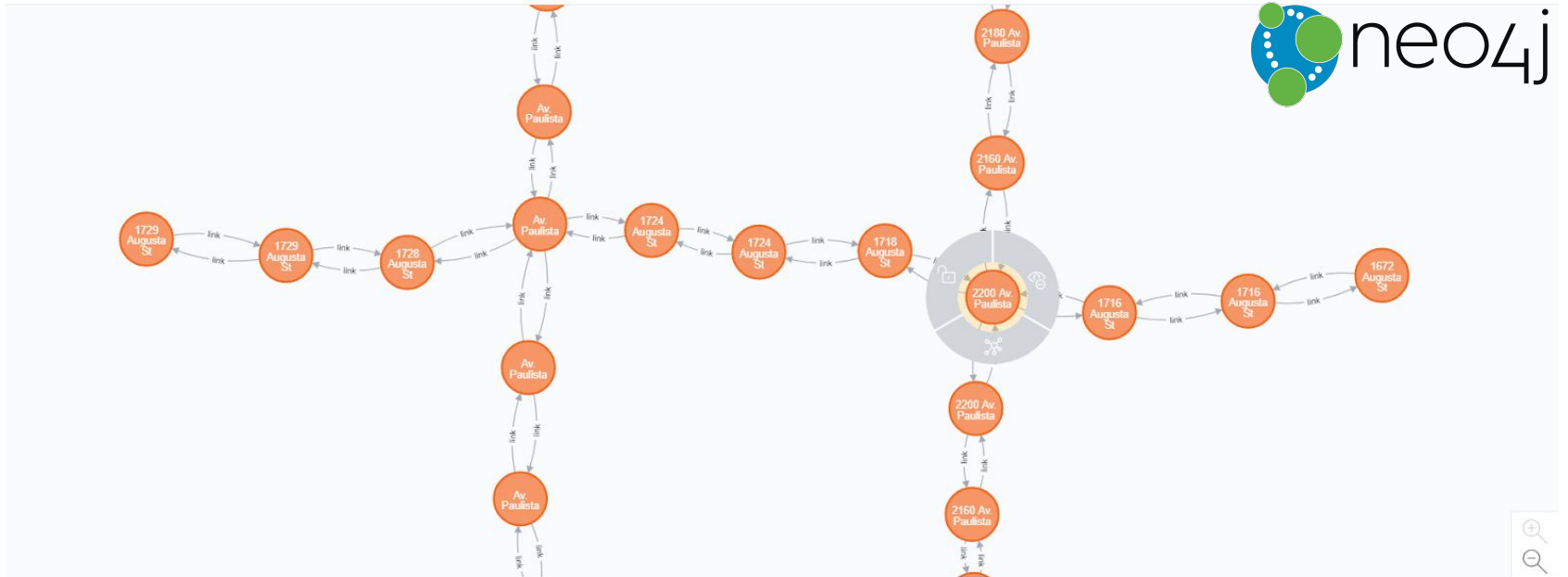
UserViewComments	
FK user	User
last_update	date
viewid	int
comment	text

Session	
PK id	UUID
FK user	User
sessionName	str (256)
uimodelJSON	text

Quota	
FK user	User
FK session	DjangoSession
function_name	str (256)
quota_available	int
last_update	date

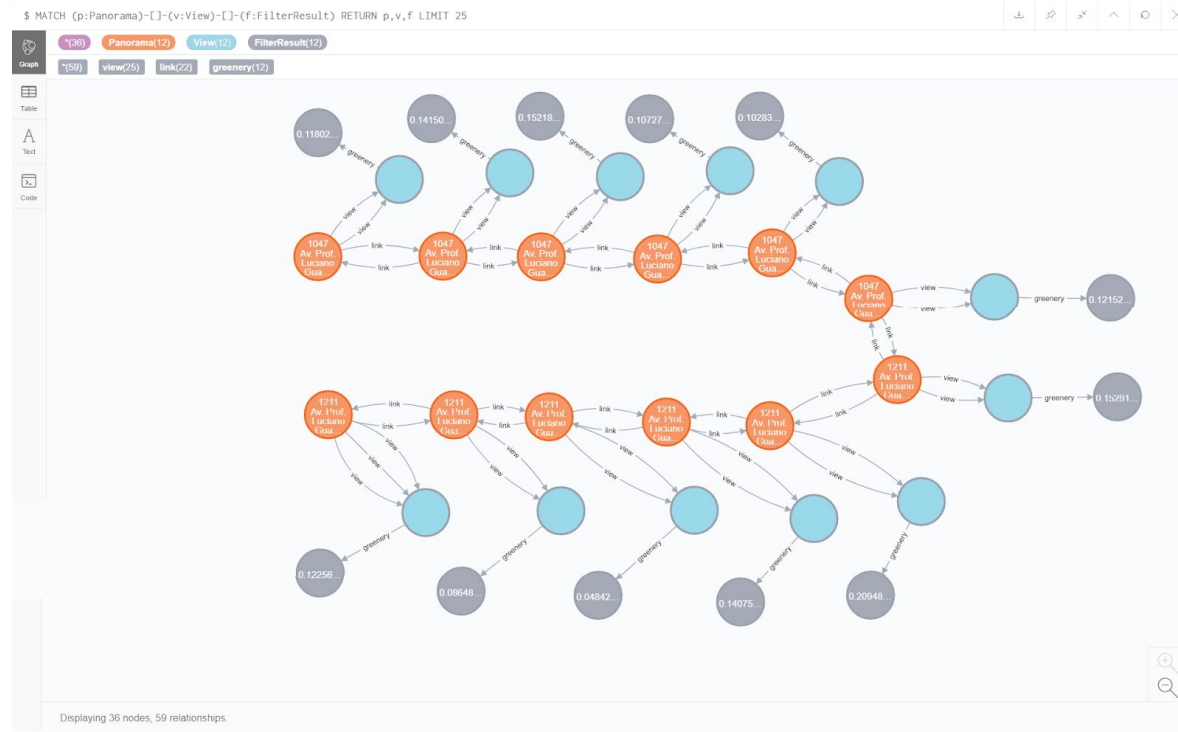


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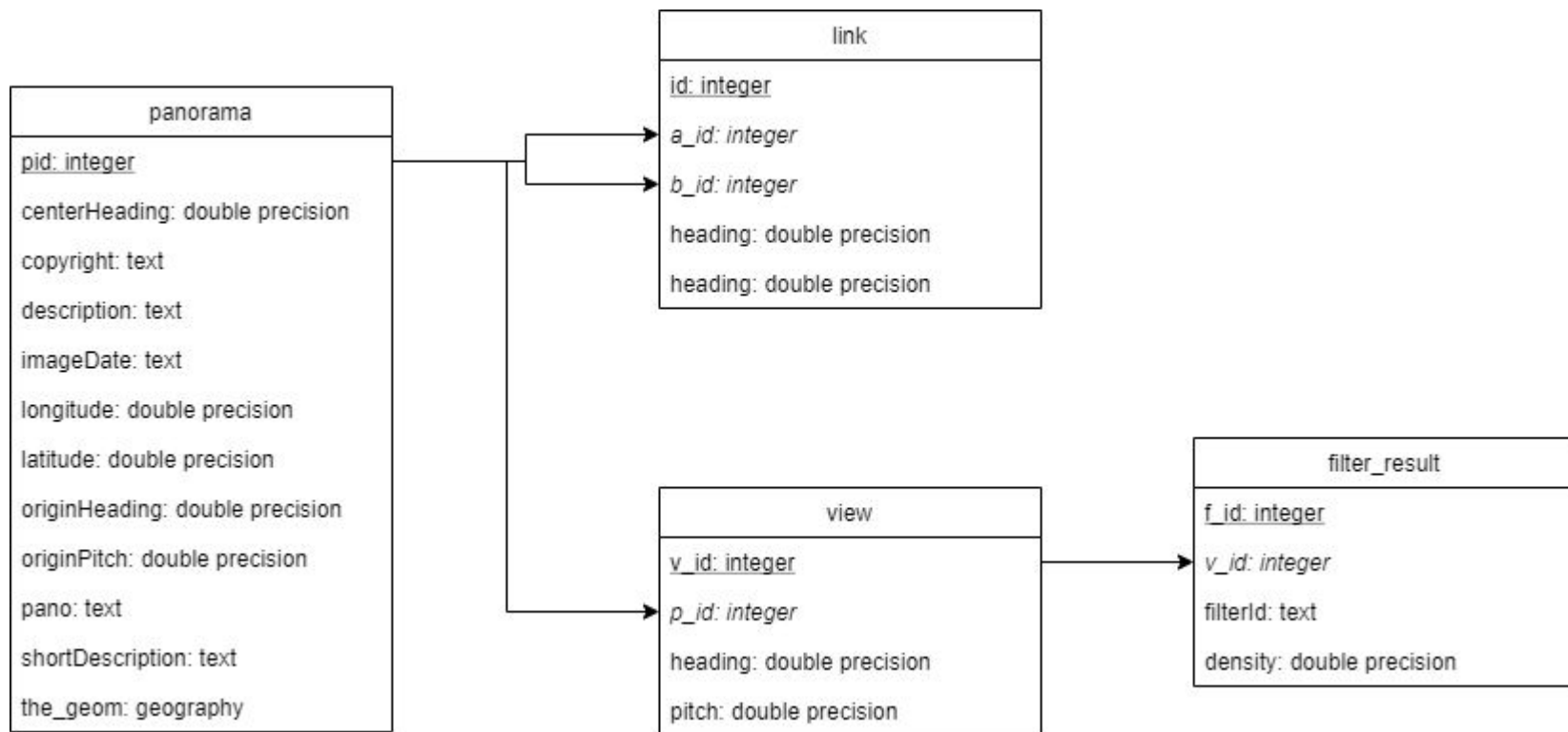


Panorama <id>: 12487 copyright: © 2019 Google description: 2200 Av. Paulista, São Paulo, State of São Paulo location: point([srId:7203, x:-46.66016261208051, y:-23.55807560559553]) pano: 2RnAQJ0bbEUcByTBVfVmq shortDescription: 2200 Av. Paulista

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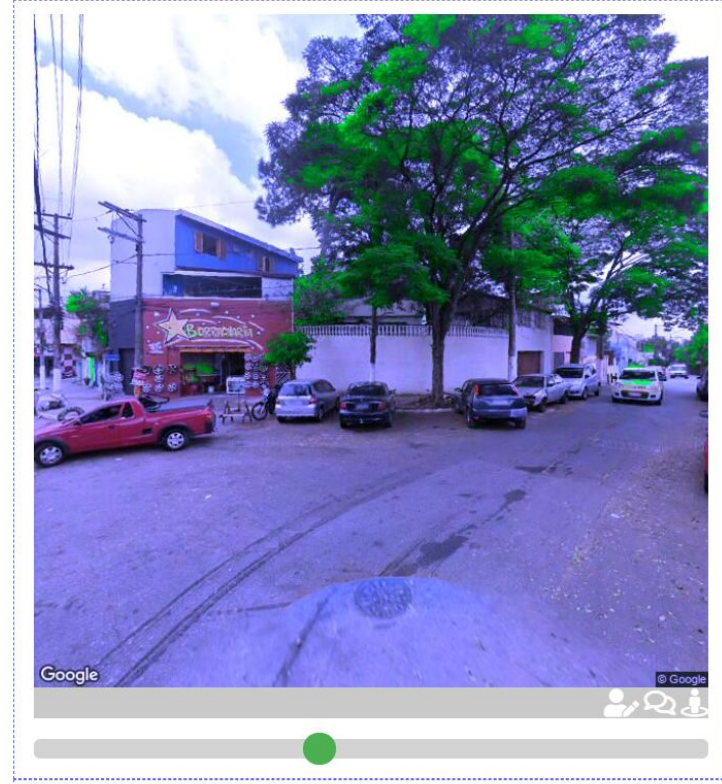
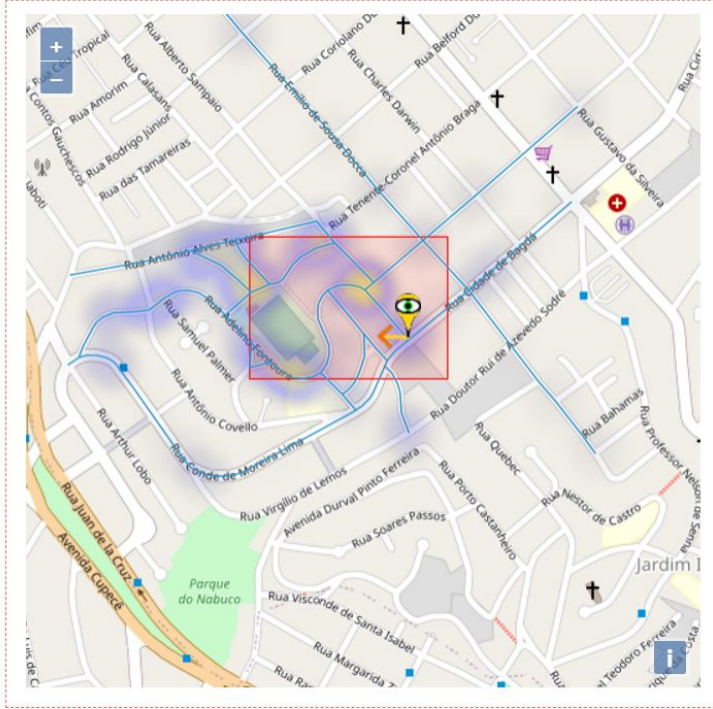
```
DO $$
DECLARE
    xmin double precision := -46.7253824904;
    ymin double precision := -23.5539293126;
    xmax double precision := -46.7227137652;
    ymax double precision := -23.5524419258;
    v_nk RECORD;
BEGIN

EXPLAIN ANALYZE
SELECT
AVG(f.density)
FROM filter_result as f
INNER JOIN view as v ON f.v_id = v.v_id
INNER JOIN panorama as p ON v.p_id = p.pid
WHERE
ST_Contains(
ST_MakeEnvelope(xmin,ymin,xmax,ymax,4326),
p.the_geom) into v_nk;

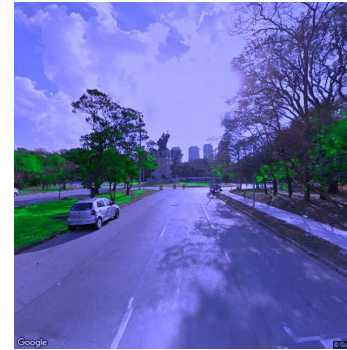
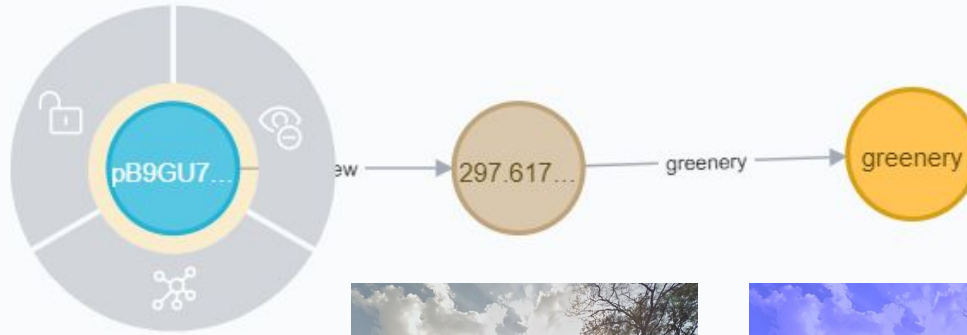
raise notice 'Value:_%', v_nk;

END $$;
```

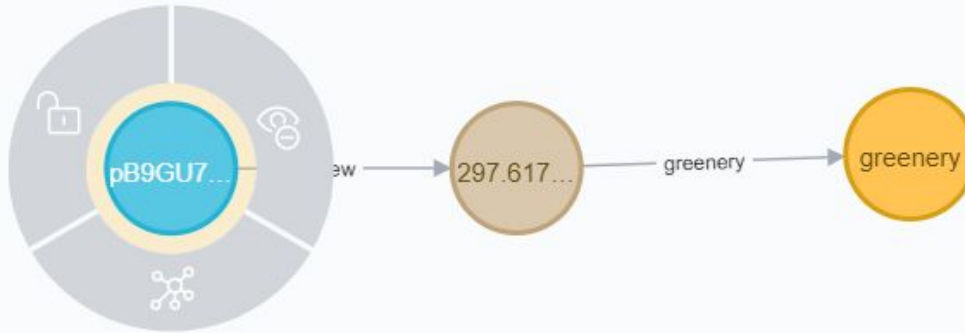
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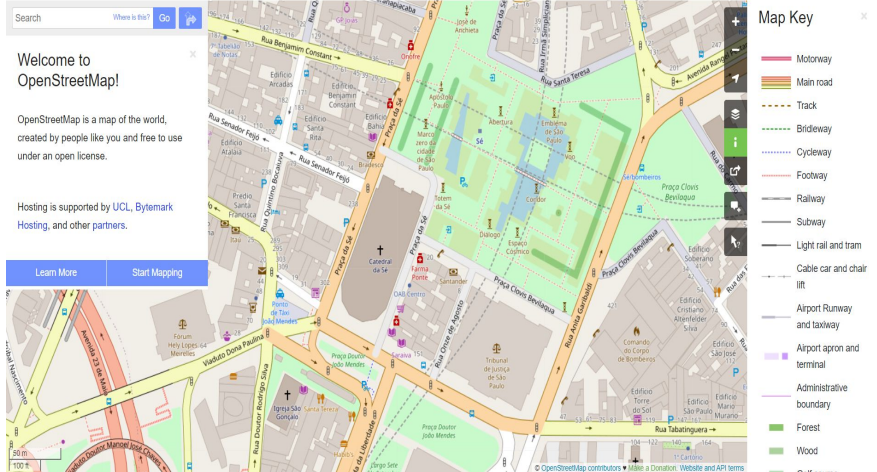


description: 1468 Av. Prof. Luciano Gualberto, São Paulo, State of São Paulo **imageDate:** 2017-07

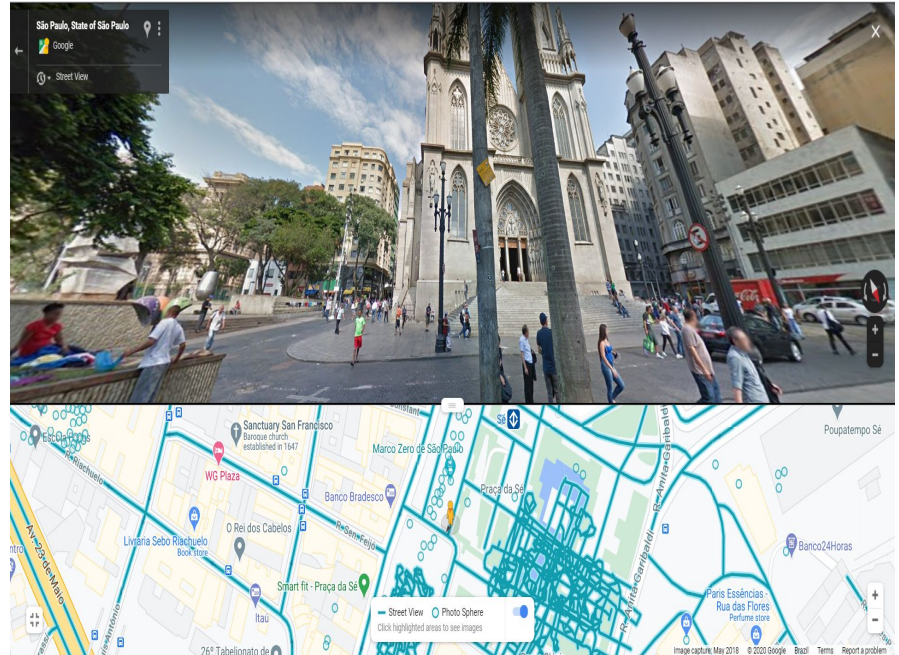
location: point({srid:4326, x:-46.733503142935206, y:-23.55729348224346}) **originHeading:** 297.6172790527344

originPitch: 0.3543853759765625 **pano:** pB9GU71IP4QdvReUn92neA **shortDescription:** 1468 Av. Prof. Luciano Gualberto

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OpenStreetMap



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Way: 425456424 ✕

Version #2
inclusão de numeração de porta fonte PMSP
<http://geosampa.prefeitura.sp.gov.br/PaginasPublicas.aspx>

Edited over 3 years ago by [O Filim](#) · [Changeset #51545441](#)

Tags

building	yes
height	36.48

Nodes
▶ 11 nodes

[Download XML](#) · [View History](#)

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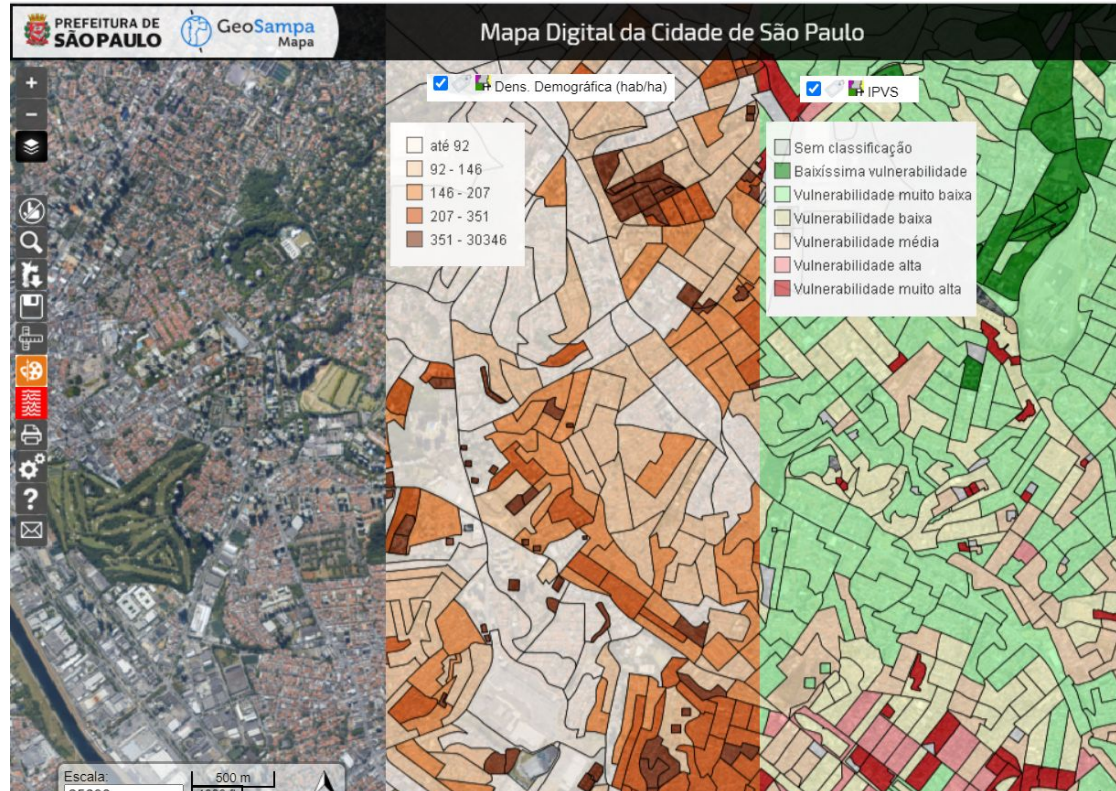
The screenshot displays the GeoSampa digital map interface for São Paulo. The interface includes a header with the logos for the Prefeitura de São Paulo and GeoSampa Mapa, and the title "Mapa Digital da Cidade de São Paulo". On the right side of the header, there are three buttons: "Dados Abertos", "Acessar Metadados", and "Acessar Tutorial".

The main map area is divided into three vertical panels, each showing a different map layer:

- Left Panel:** Shows the "Político-Administrativo" (Political-Administrative) layer, which displays the city's street grid and administrative boundaries. A scale bar at the bottom left indicates a scale of 1:25693, with markers for 500 meters and 1000 feet. A north arrow is also present.
- Middle Panel:** Shows the "Topografia" (Topography) layer, which displays the city's terrain and elevation. A scale bar at the bottom left indicates a scale of 1:25693, with markers for 500 meters and 1000 feet. A north arrow is also present.
- Right Panel:** Shows the "Ortofoto 2017 - PMSP RGB" layer, which is a high-resolution aerial photograph of the city. A scale bar at the bottom right indicates a scale of 1:329693, with markers for 7392954 meters.

Navigation and interaction tools are located on the left side of the map area, including a vertical toolbar with icons for zooming in (+) and out (-), a search icon, a location pin icon, a compass icon, a refresh icon, a home icon, a settings icon, and a close icon. The top of the map area features a layer control panel with checkboxes for "Político-Administrativo", "Topografia", "Mapeamento 1930 - Sara", "Ortofoto 2004 - MDC", and "Ortofoto 2017 - PMSP RGB".

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Detecting tangled pole wires in trees

Artur André Oliveira, Roberto Hirata Jr., Marcos S. Buckeridge

(2019 - São Paulo)

- More than 47 thousand trees in need of some pruning
- More than 42 thousand near electrical overhead power lines
- Source (<https://noticias.r7.com/sao-paulo/sp-tem-426-mil-arvores-perto-da-rede-eletrica-que-precisam-de-poda-26082019>)



Detecting tangled pole wires in trees

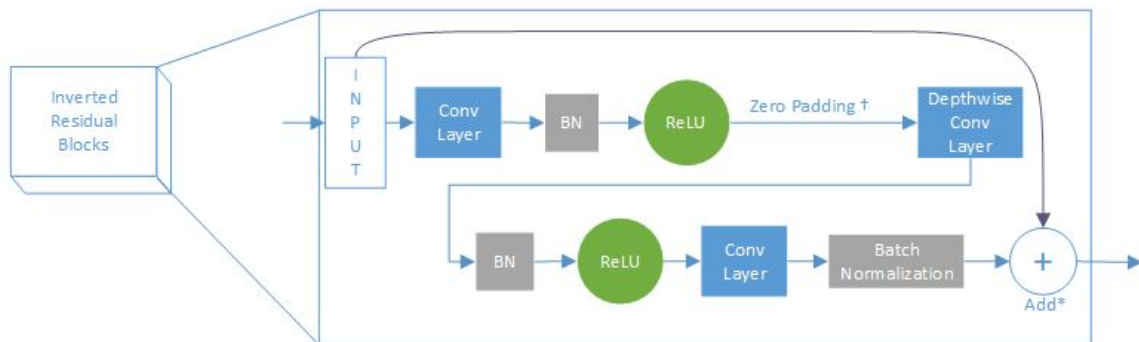
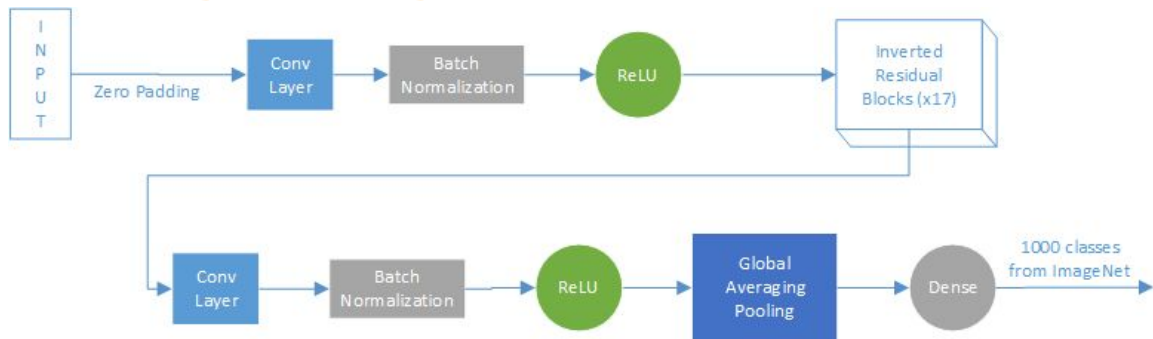
GIS / Open Government data



Mapa Digital da Cidade de São Paulo

- 652385 trees registered as sideroad trees
- 598364 public light poles
- Social Vulnerability Index Paulista

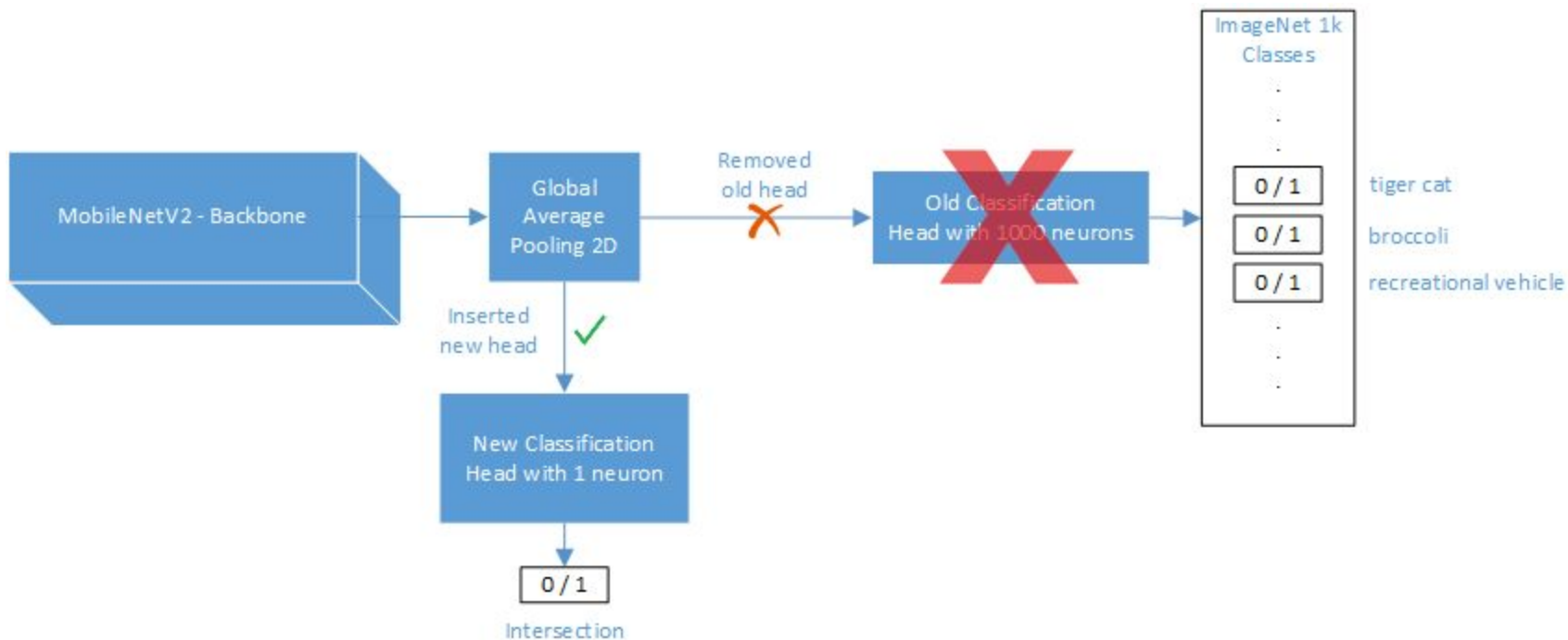
Detecting tangled pole wires in trees



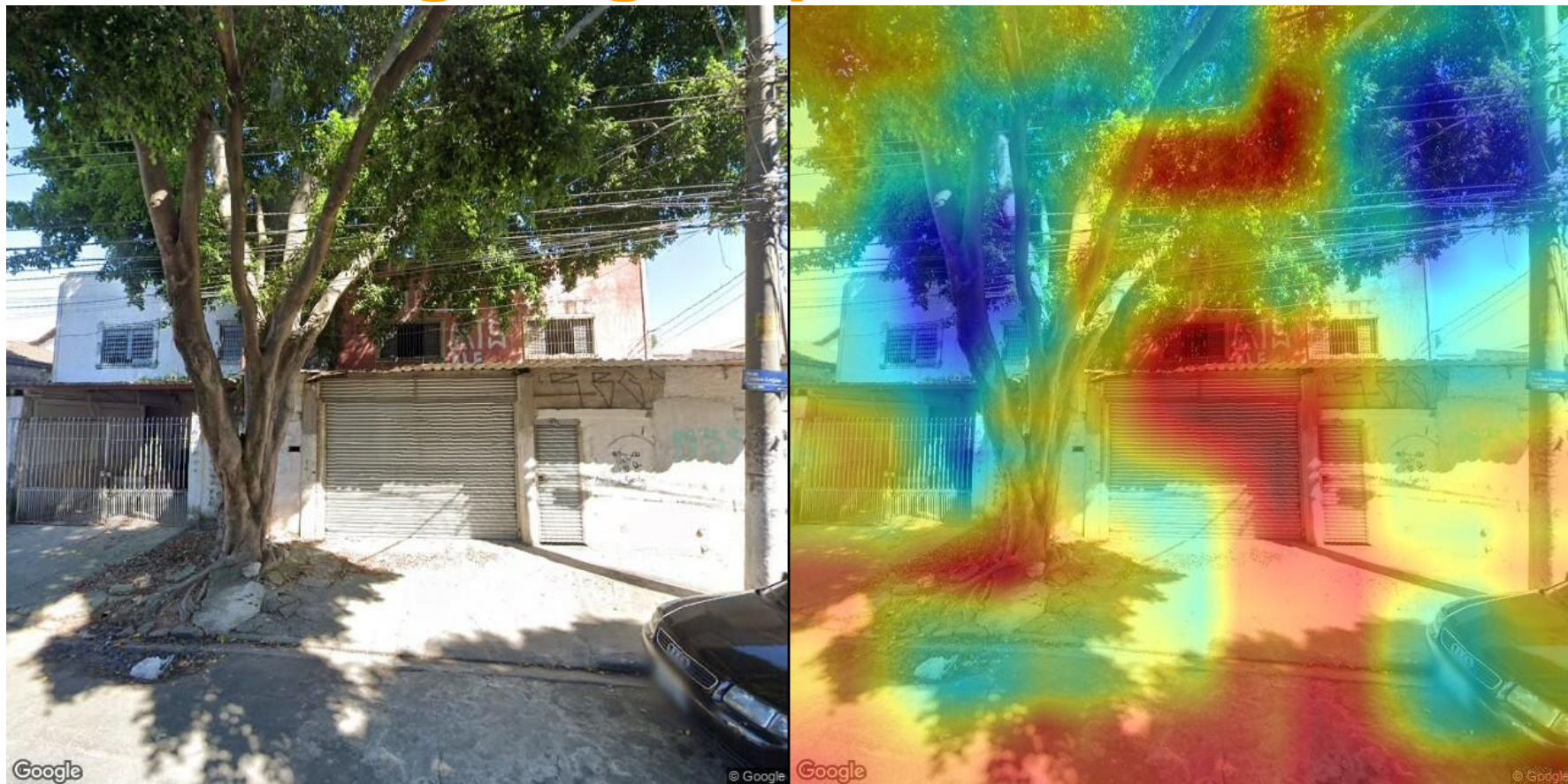
† The zero padding layer is added only if the stride parameter of the Inverted Residual Block is 2

* The residual connection (Add block) is only used when the stride parameter of the block is 1 and the number of channels in the input is the same of the output. That is, the addition operator here is element-wise.

Detecting tangled pole wires in trees



Detecting tangled pole wires in trees



GSV image on the left, Class Activation Map (with relation to intersections) on the right

Detecting tangled pole wires in trees



GSV image on the left, Class Activation Map (with relation to intersections) on the right

What happened to that tree?

- Introduced trees
- Removed trees
- Visualization by period



2011



2019

Large Scale Social Vulnerability Index estimation in Latin America based on Open Government Data and Google Street View imagery

Artur André Oliveira, F. Duarte, R. Hirata Jr.

- Collect and integrate Open Government Data and urban street-level imagery from Latin America countries.
- Using a deep learning approach we will assess the relationships between vulnerability indexes and street-level imagery.

Study of Social Vulnerability in Argentina Through the Use of GIS. Building a Local Application Index

Natacha Soledad Represa; Yanina Sanchez & Andrés Porta

1. Limited access to economic and cultural resources
2. Limited access to public policies and political representation
- 3. Low quality of built infrastructure**
4. Some socio-demographic characteristics (e.g. social groups with children and elderly people are more vulnerable)
5. [Link to paper \(in spanish - Estudio de la Vulnerabilidad Social en Argentina Mediante el Uso de SIG. Construcción de un Índice de Aplicación Local\)](#)