

CycleAI[®]

Empowering  for their own safety through AI



Luís Rita
[Data Scientist]



Miguel Peliteiro
[Medical Doctor]



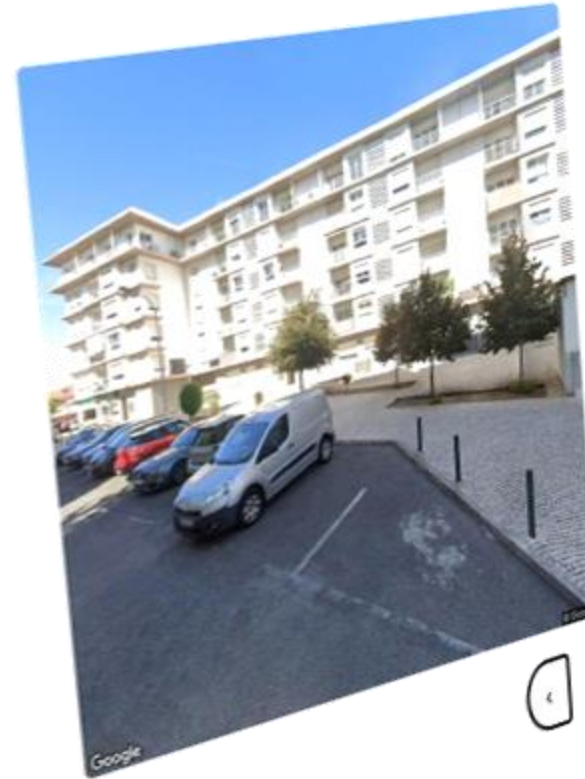
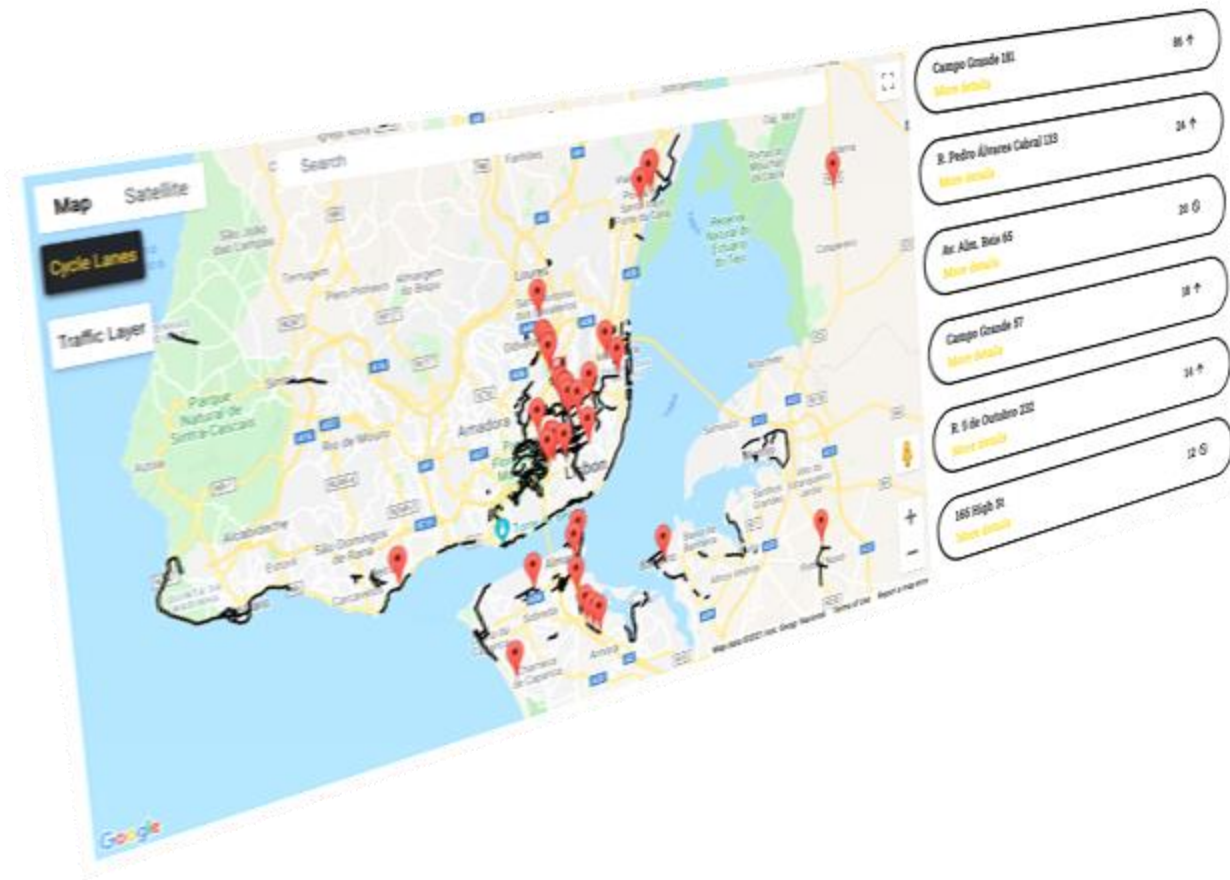
Codrin Bostan
[Web Developer]



2000 killed each year in

Crowdsources

Hotspot Map + Perception Poll



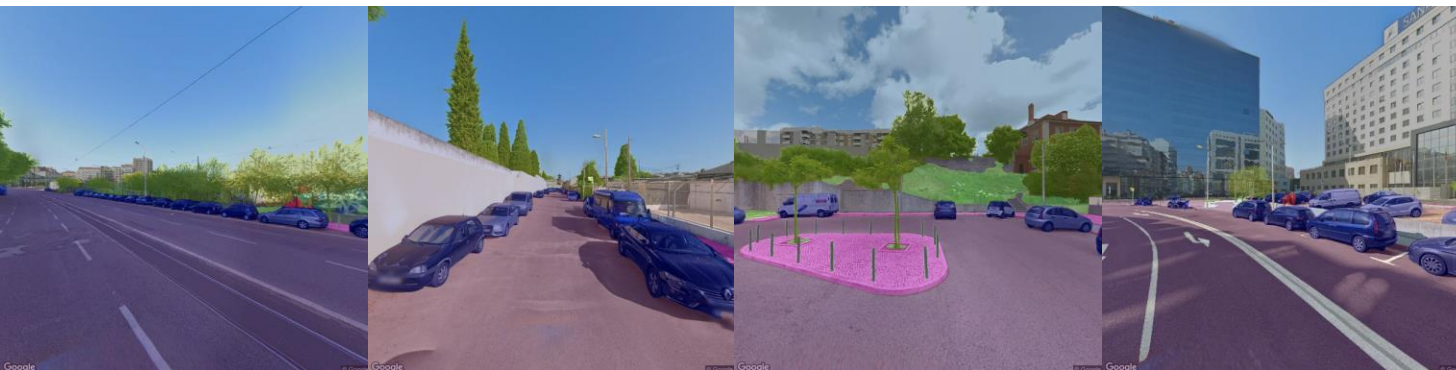
Risk Detection

Objects & Structures

Object Detection

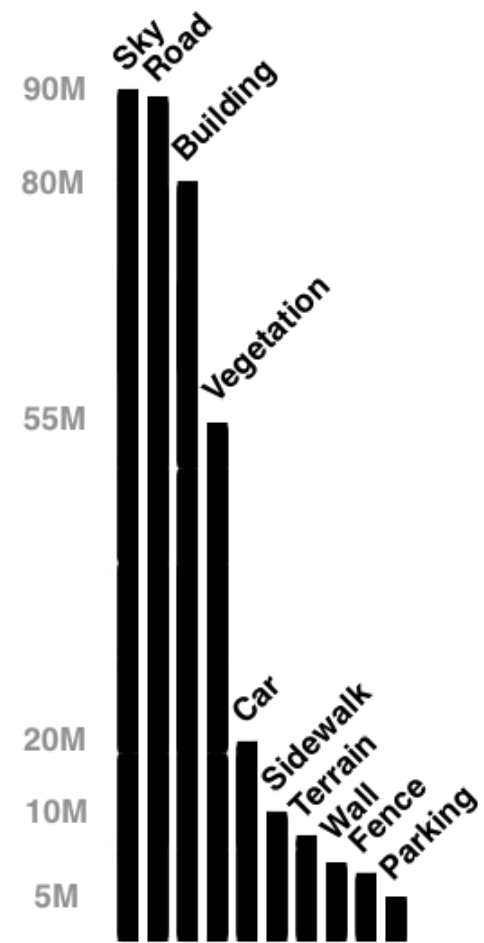
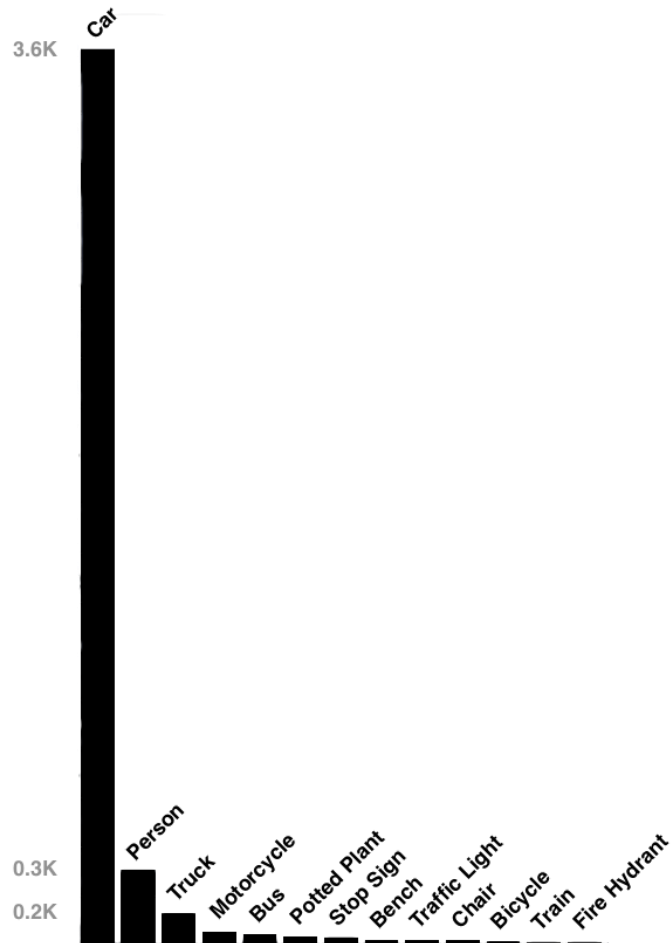


Image Segmentation



Risk Detection

YOLOv5 (COCO) + NVIDIA (Cityscapes)

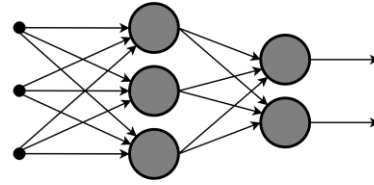


YOLOv5 (COCO) + NVIDIA (Cityscapes)

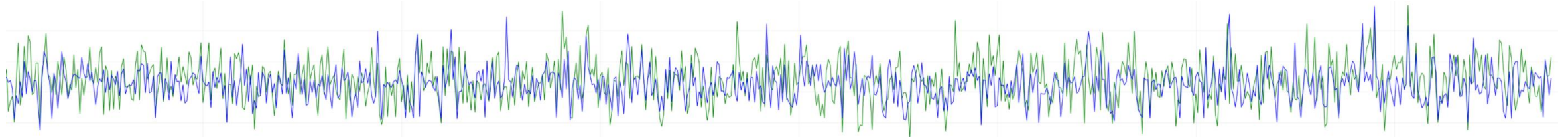


[30 Classes]

Neural Network

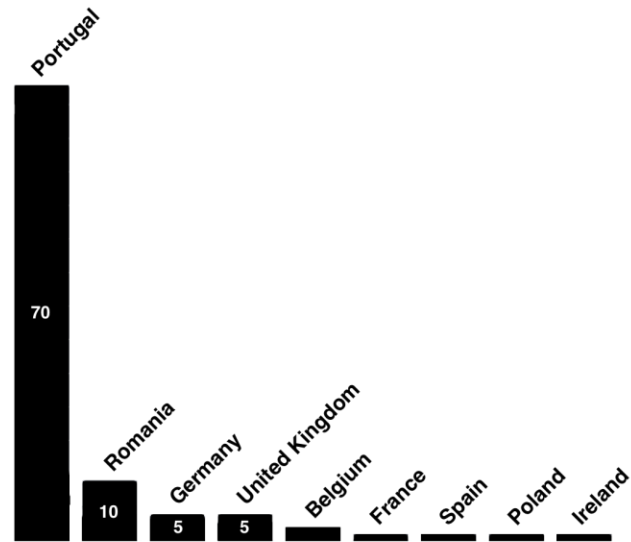


Bikeable – Sequential Model



Data

Hotspot Map + Perception Poll



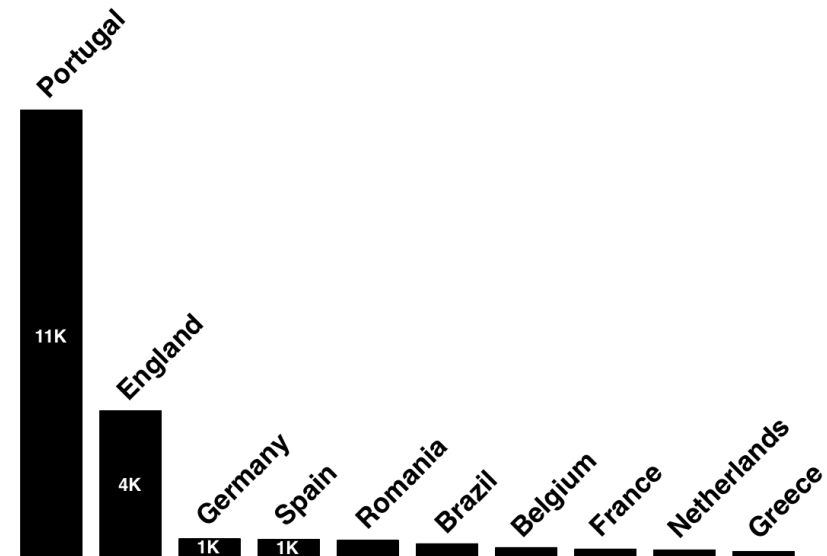
Goal: 100

Hotspots



Goal: 500

Hotspots Votes



Goal: 5,000

Poll Voters



Goal: 100,000

Poll Votes

Risk Factors

Objects & Structures

Objects	Safe	Dangerous
Bicycle	+497%	-100%
Person	+33%	-13%
Truck	-57%	+114%
Bus	-100%	+86%



Structures	Safe	Dangerous
Bike Lane	+380%	-79%
Pedestrian Area	+301%	-73%
Sidewalk	+81%	-66%
Streetlight	+52%	-40%
Vegetation	+50%	-38%
Building	-32%	+5%
Guard Rail	-98%	268%
Bridge	-99%	318%
Rail Track	-100%	608%

Risk Factors

Environment



2



3



7



8

Google Street View

90°



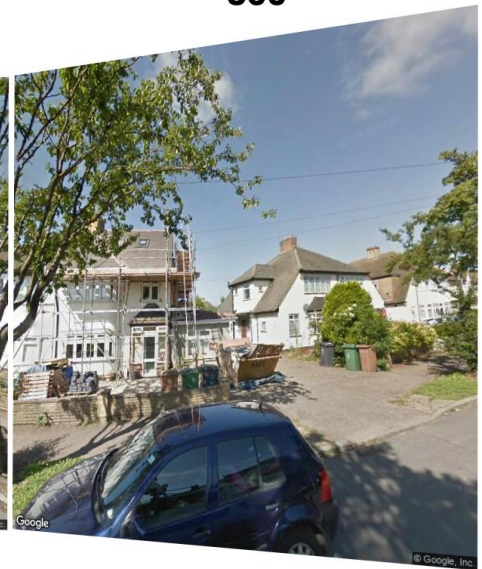
180°



270°

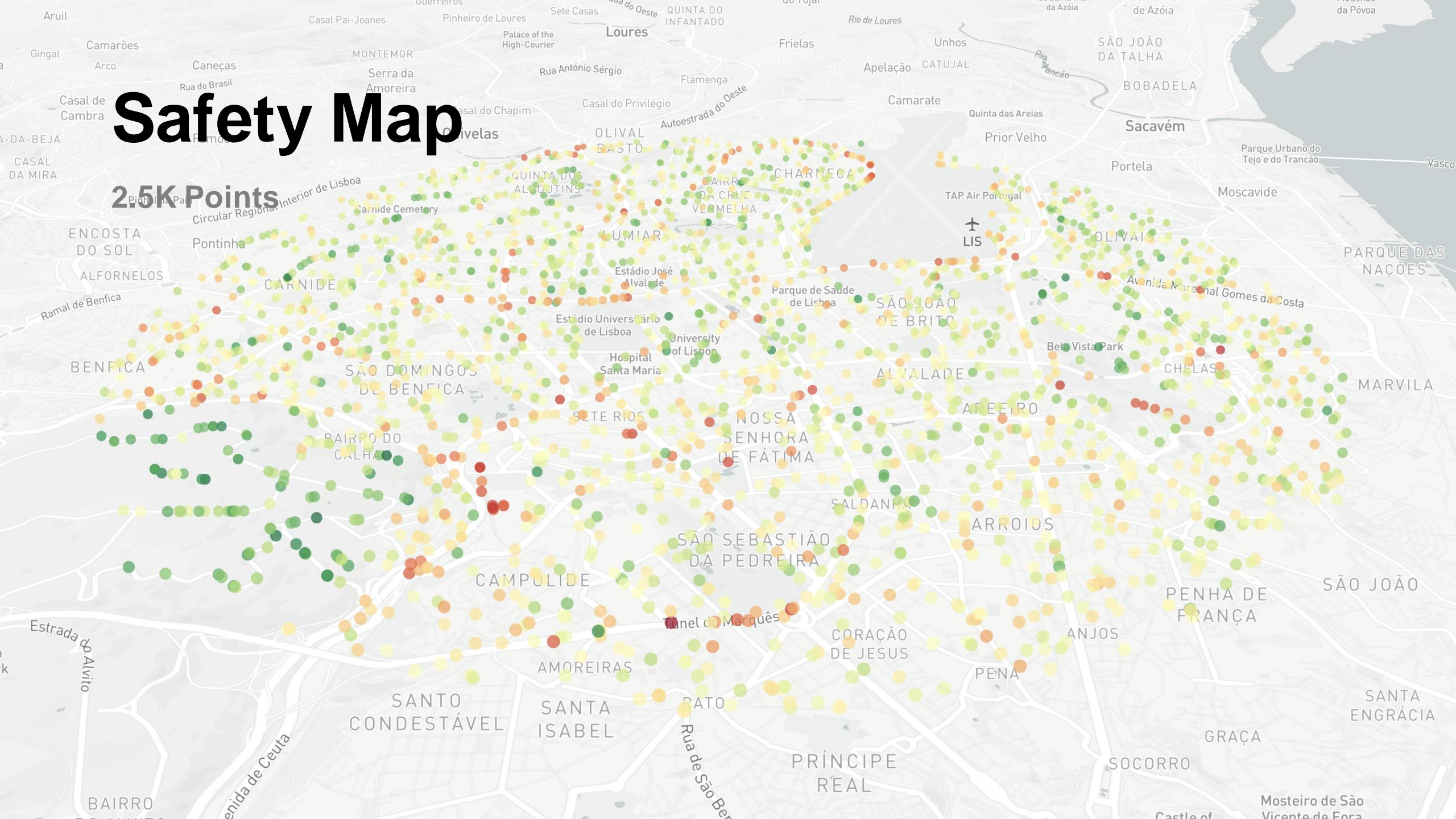


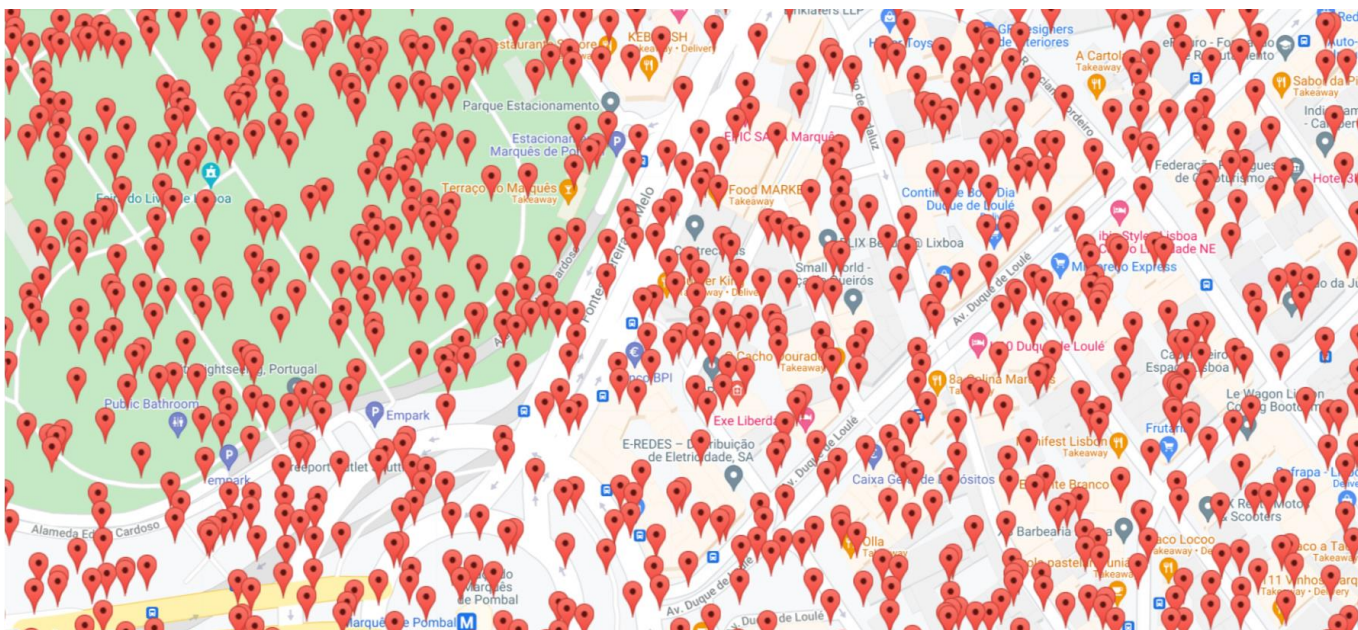
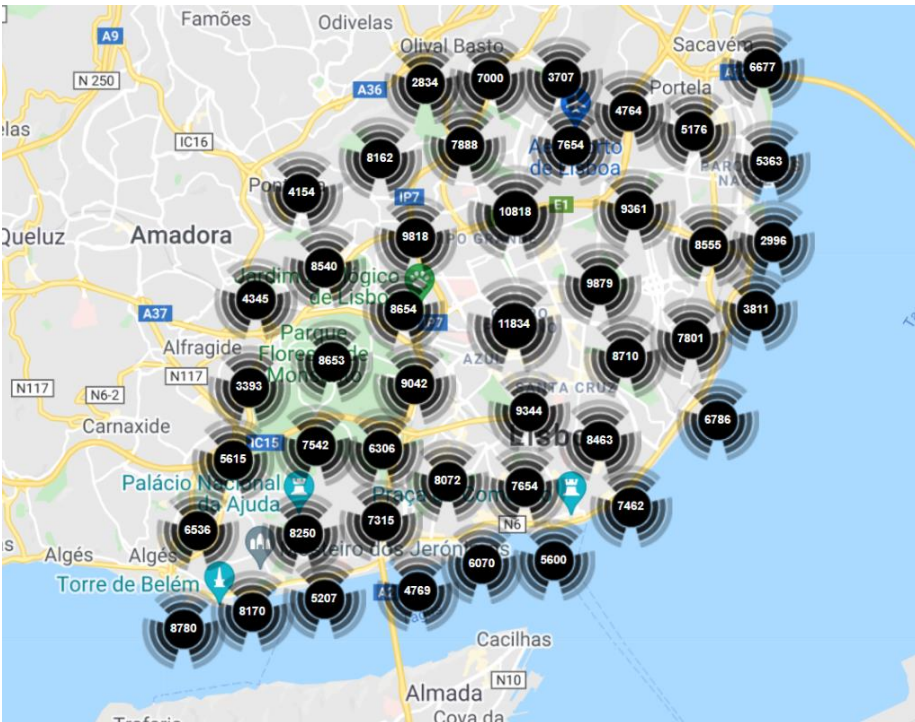
360°



Safety Map

2.5K Points





Safety Map

250K Points

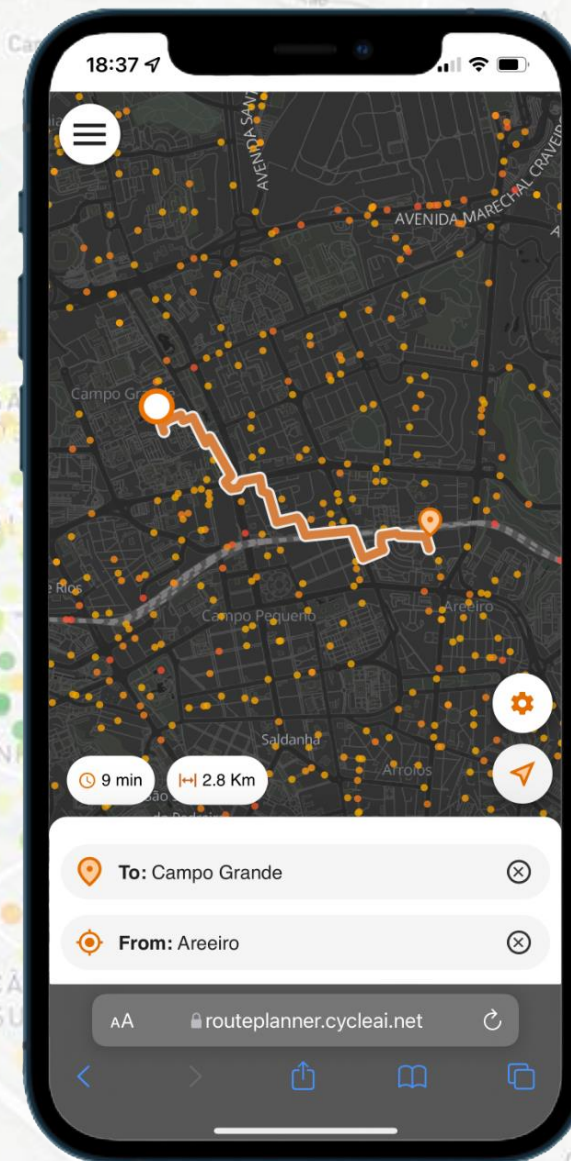
Route Planner

Web App

We provide the safest, fastest and shortest cycling routes

Featured in:

Forbes



Route Planner

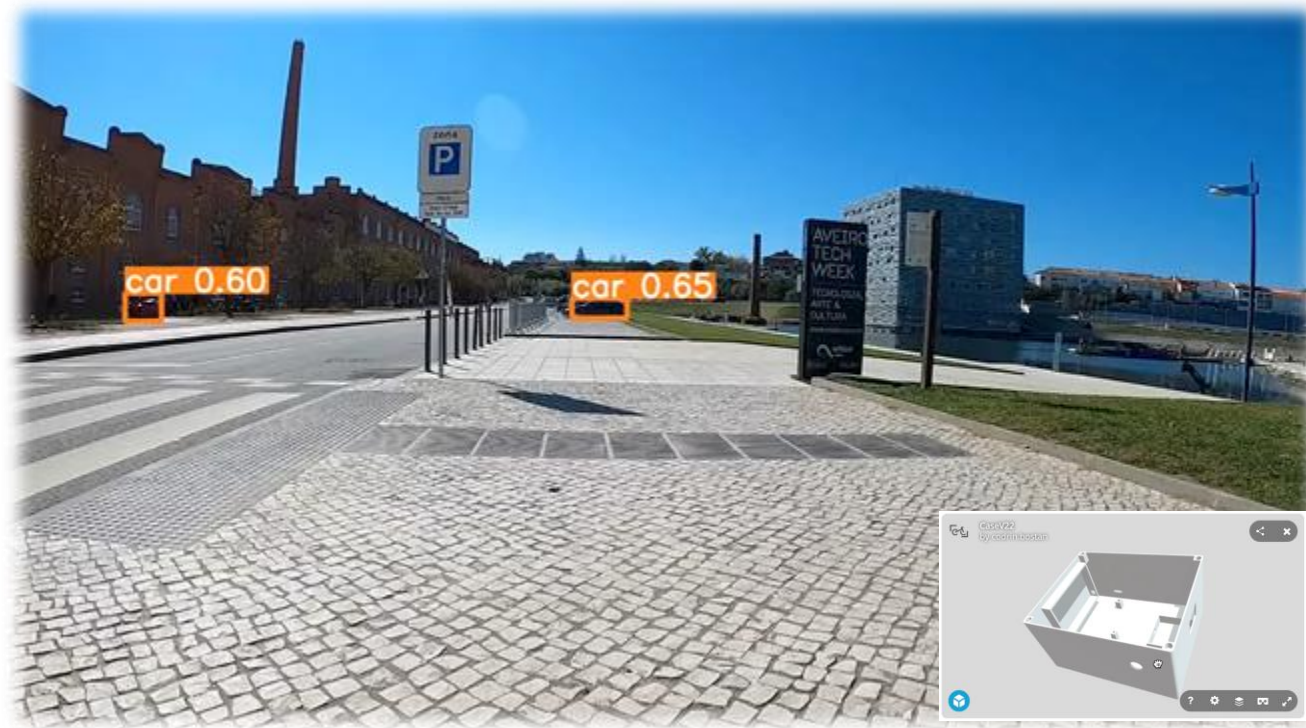
Web App

```
var openrouteservice = require("openrouteservice-js");

// Add your api_key here
var Directions = new openrouteservice.Directions({ api_key: "XYZ" });

Directions.calculate({
  coordinates: [[8.690958, 49.404662], [8.687868, 49.390139]],
  profile: 'driving-hgv',
  restrictions: { height: 10, weight: 5 },
  extra_info: ['waytype', 'steepness'],
  avoidables: ['highways', 'tollways', 'ferries', 'fords'],
  avoid_polygons: {
    type: 'Polygon',
    coordinates: [
      [
        [8.683533668518066, 49.41987949639816],
        [8.680272102355957, 49.41812070066643],
        [8.683919906616211, 49.4132348262363],
        [8.689756393432617, 49.41806486484901],
        [8.683533668518066, 49.41987949639816]
      ]
    ]
  }
},
  format: 'json'
})
.then(function(json) {
  // Add your own result handling here
  console.log(JSON.stringify(json));
})
.catch(function(err) {
  var str = "An error occurred: " + err;
  console.log(str);
});
```


Assisted Driving



Timeline

Crowdsources

Jan 2021



Incubation

Apr 2021



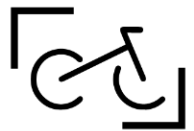
Velo-City

Sep 2021



Web Summit

Nov 2021



Foundation

Oct 2020



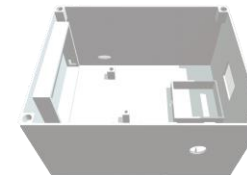
Bikeable

Apr 2021



Acceleration

May 2021



360

Oct 2021

Next Steps

Satellite Imagery

