Wize: Traffic Object Detection

Voxel51 Visual AI Hackathon @NYC

Dataset: NYC Traffic Cameras

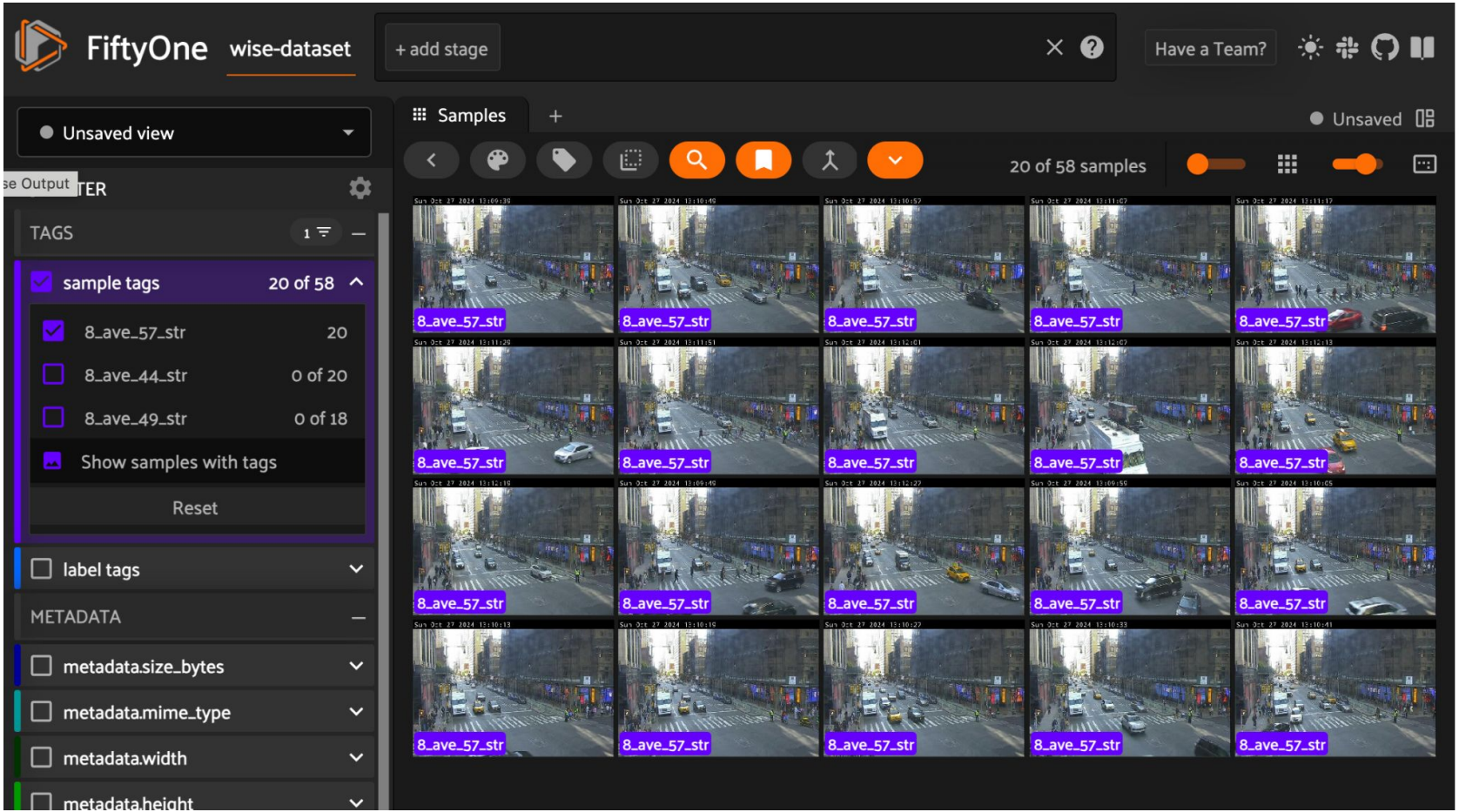
- We collected our own small dataset from real-time NYC traffic cameras: https://webcams.nyctmc.org/cameras-list

- Proceeded to collect 60 images in total from three different traffic points in NYC; all of them on the same avenue, but different street.

- Specifically, 8th & 44th, 8th & 49th and 8th & 57th

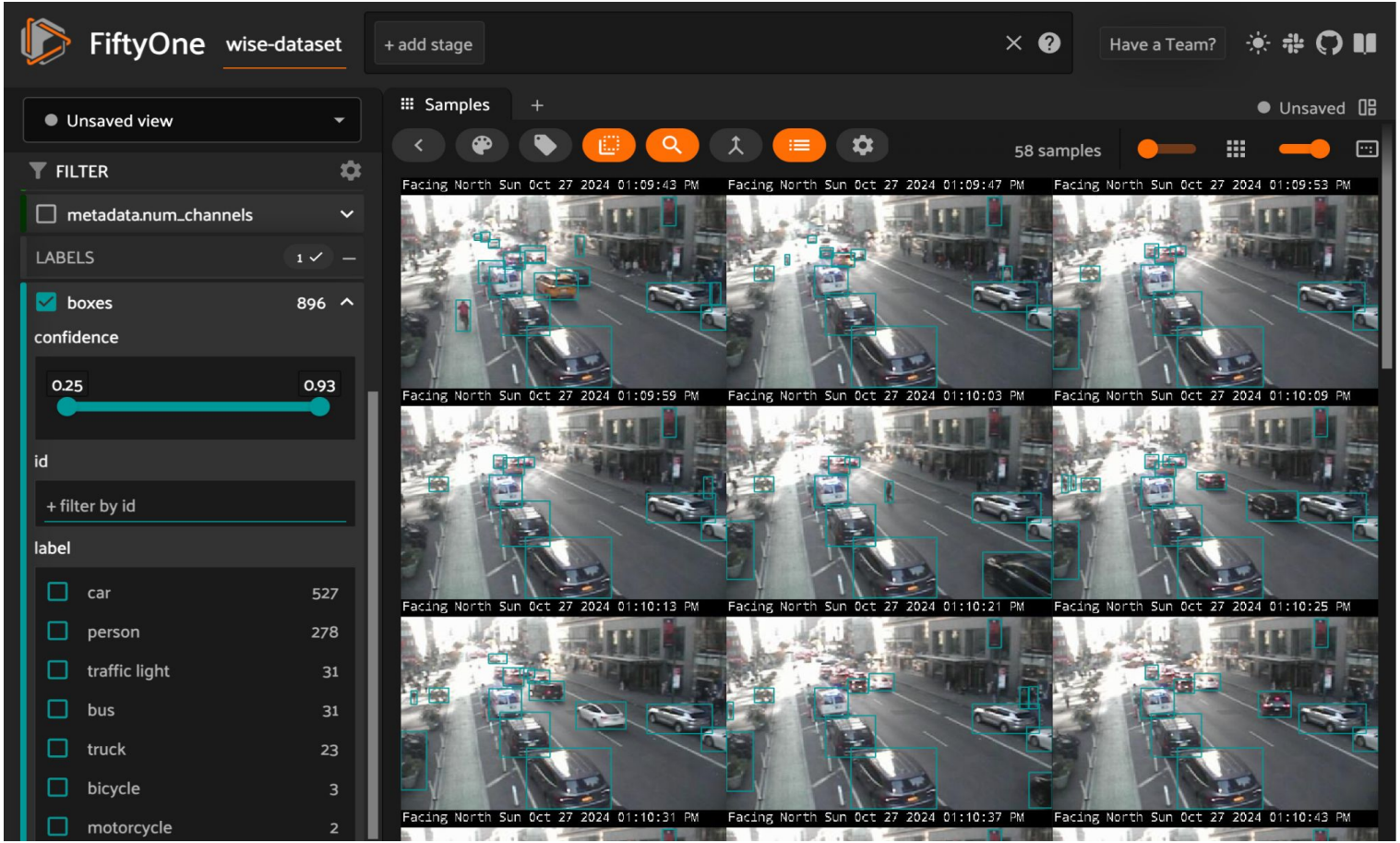
- Loaded our dataset with the FiftyOne library

FiftyOne-based Dataset Preview



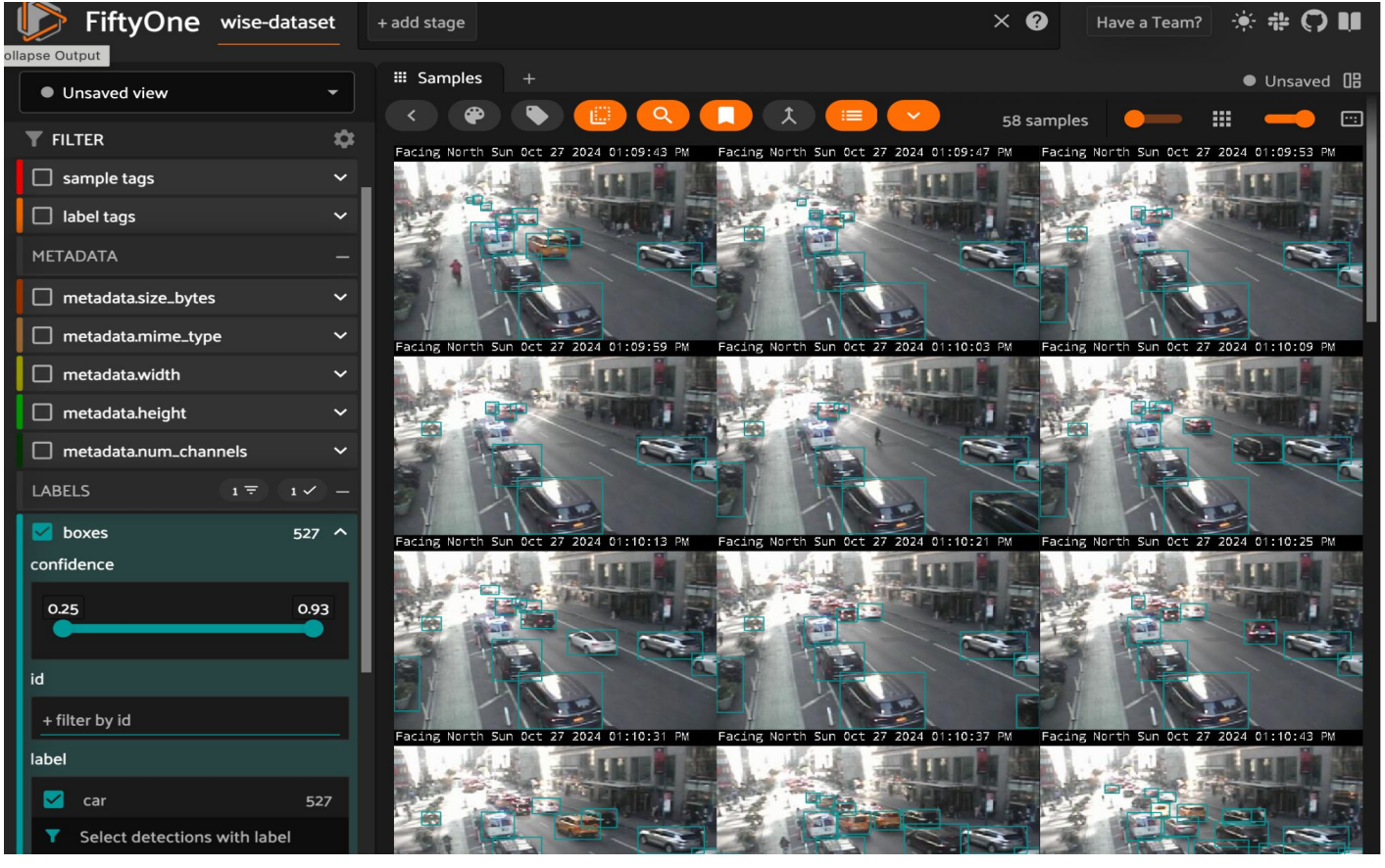
FiftyOne-based Object Detection

Feature: Filter the detected bounding boxes based on the model's confidence



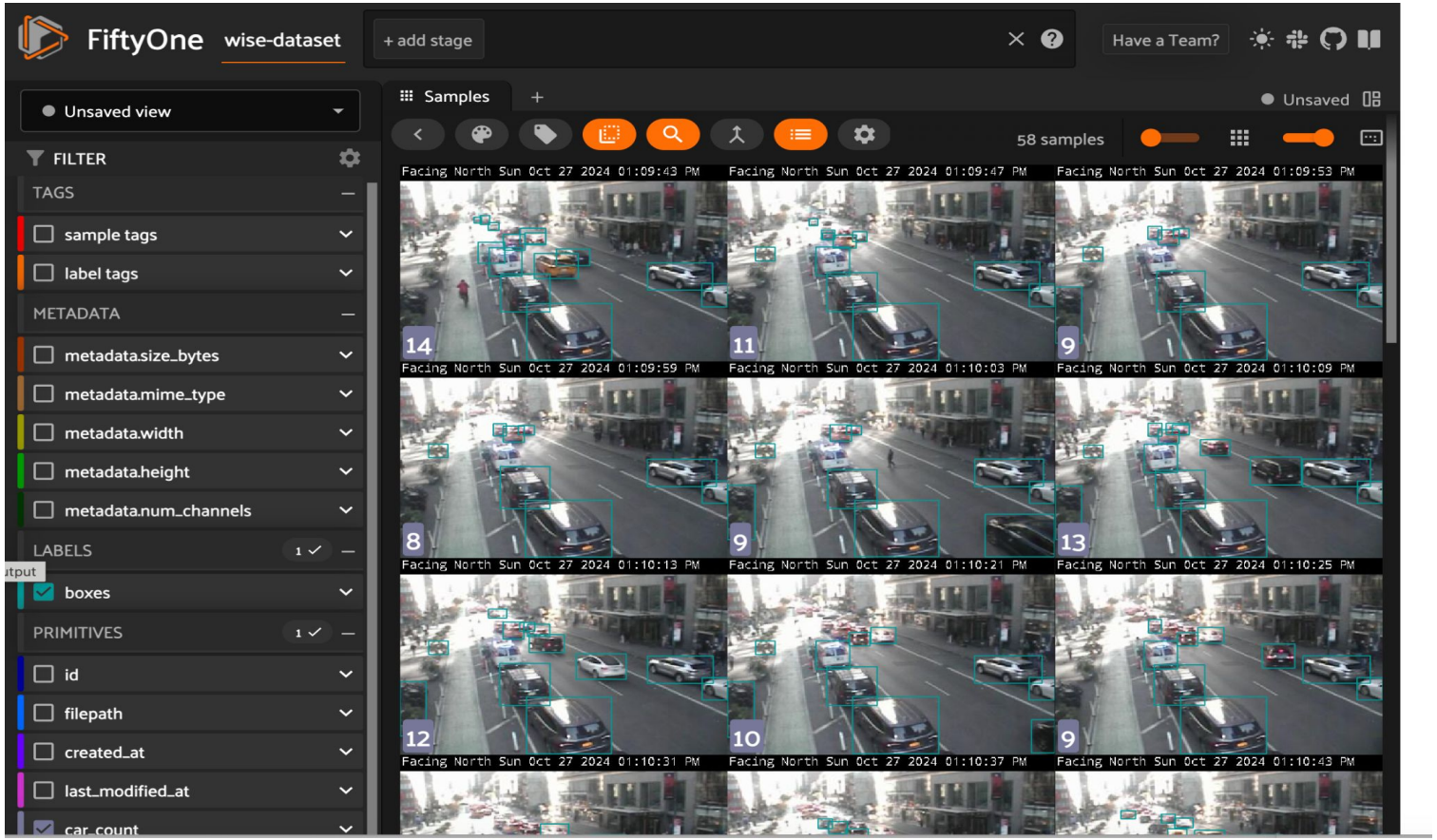
FiftyOne-based Object Detection

Feature: Filter the detected bounding boxes based on the model's confidence, as well as the model's metadata

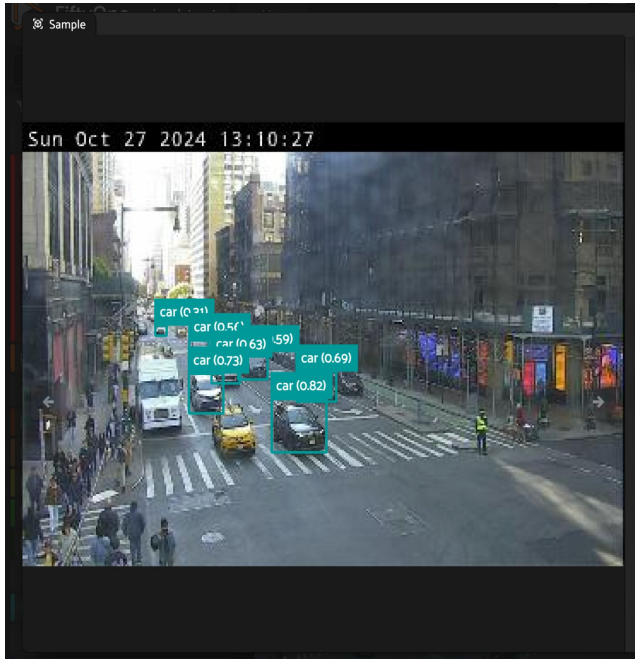


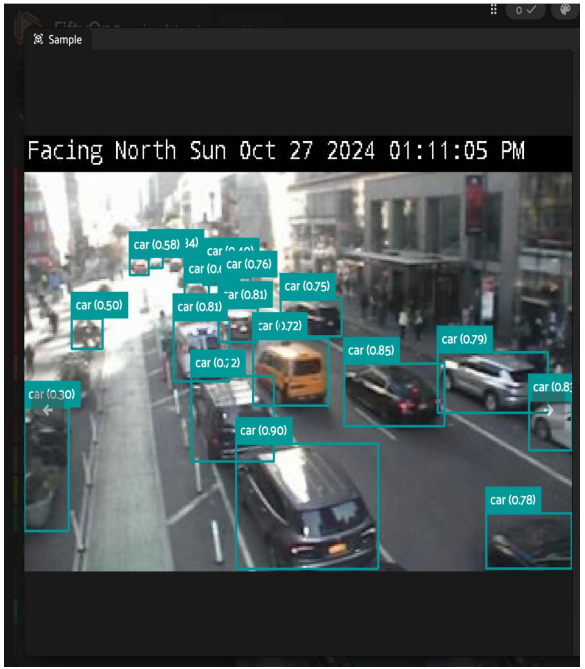
FiftyOne-based Object Detection

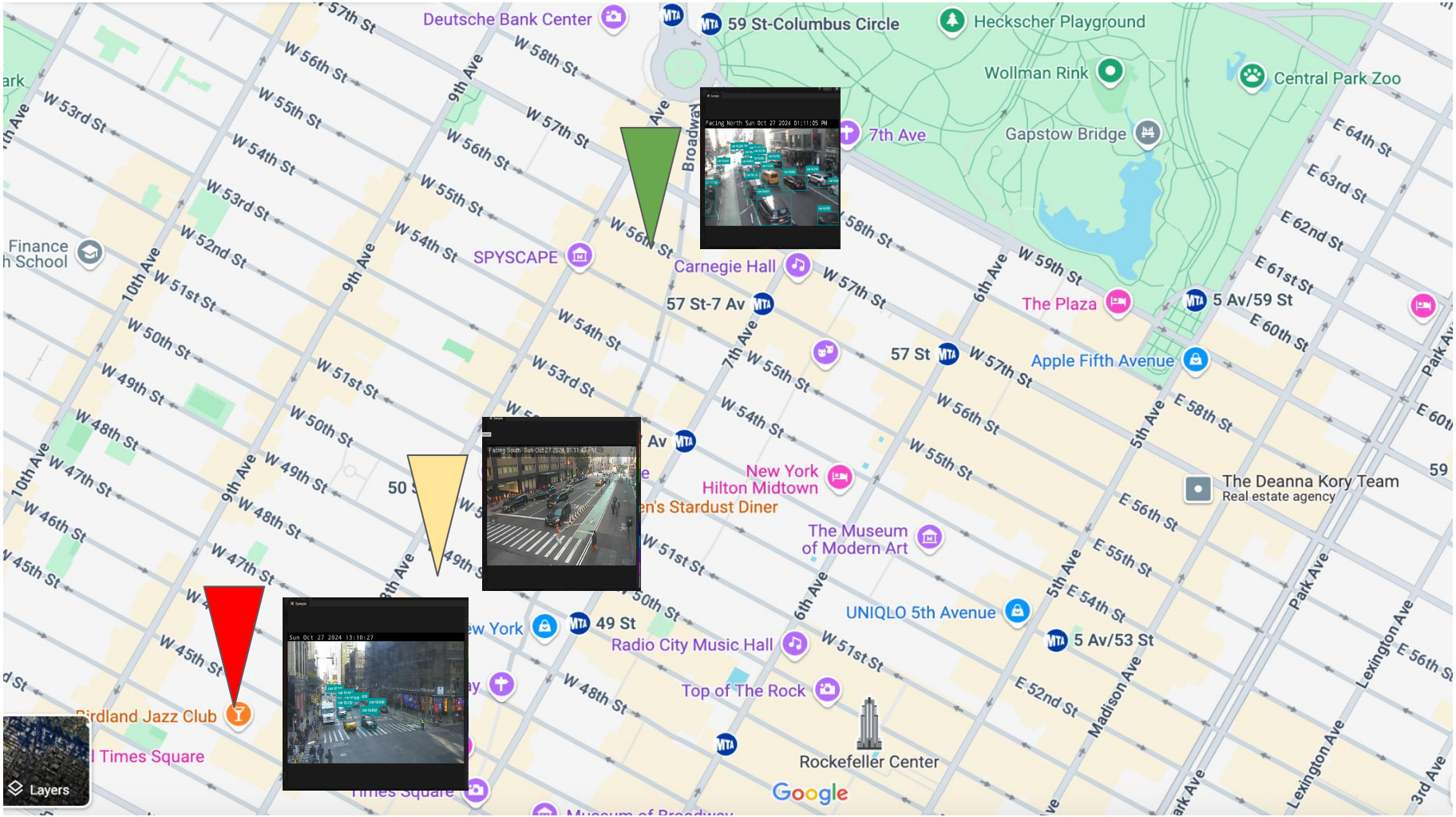
Feature: Count the number of cars shown in the image.



Traffic analysis by looking at temporally sequential images in Manhattan






Deutsche Bank Center
59 St-Columbus Circle
Heckscher Playground
Wollman Rink
Central Park Zoo
7th Ave
Gapstow Bridge
Finance
SPYSCAPE
Carnegie Hall
57 St-7 Av
The Plaza
5 Av/59 St
Apple Fifth Avenue
57 St
New York
Hilton Midtown
The Deanna Kory Team
Real estate agency
The Museum
of Modern Art
UNIQLO 5th Avenue
49 St
Radio City Music Hall
5 Av/53 St
Top of The Rock
Rockefeller Center
Birdland Jazz Club
Times Square
Layers
Google
W 57th St
W 56th St
W 55th St
W 54th St
W 53rd St
W 52nd St
W 51st St
W 50th St
W 49th St
W 48th St
W 47th St
W 46th St
W 45th St
9th Ave
10th Ave
6th Ave
5th Ave
Broadway
Park Ave
Madison Ave
Lexington Ave
E 64th St
E 63rd St
E 62nd St
E 61st St
E 60th St
E 58th St
E 56th St
E 55th St
E 54th St
E 52nd St

Objectives

- Approximately measure the real-time traffic in the streets of Manhattan based on data fetched from NYC traffic camera lights.

- Offer a more broad & accurate view of the traffic around Manhattan and personalize the insights using FiftyOne library.

Use Case: Let’s imagine that I want to move from Midtown to Lower Manhattan. Google Maps suggests that I should drive down the 6th avenue, but I absolutely hate driving on the 6th. I can optimize my route based on my personal preferences using our product.