

# Pedestrian Tracking in Druid Hill Park

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# Parks Funding in Baltimore City

A lack of funding driven by  
a lack of data

How many people are  
using the park? When?

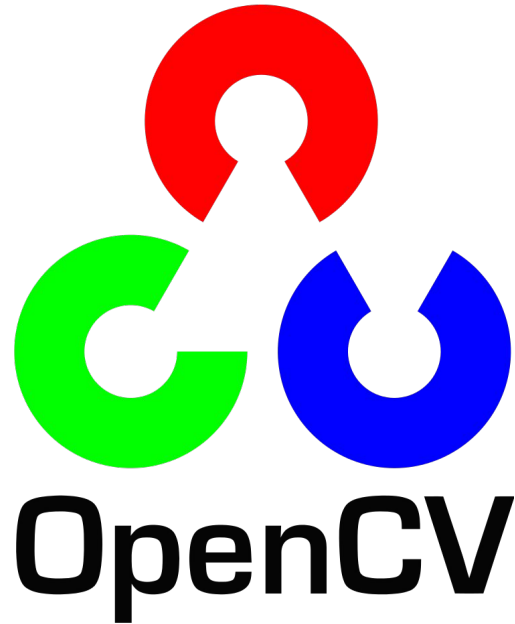




# A Computer Vision Solution

Real time tracking with live cameras

Pedestrians, bikes, cars





## What We Have Done So Far:

- ❑ Tried multiple algorithms for isolating and detecting pedestrians
- ❑ Installed a camera giving us a continuous live feed of the entrance to Druid Hill Park



# Difference of Frames

- ❑ Only looking at sections (pixels) of the frame that have changed greatly



# Tensorflow Pedestrian Detection

- ❑ Able to detect people from far away
- ❑ Finds anything else we want, including cars
- ❑ Not perfect, but consistent enough for tracking







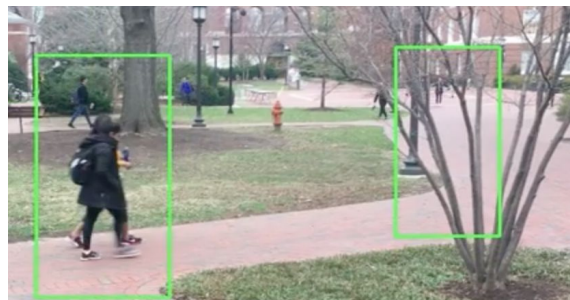
# Challenges Along the Way

## Detection:

- ❑ Car detection, small pedestrian detection
- ❑ Imutils → TensorFlow

## Video Feed:

- ❑ Blink XT vs. Google Nest







# Challenges Along the Way

## Tracking:

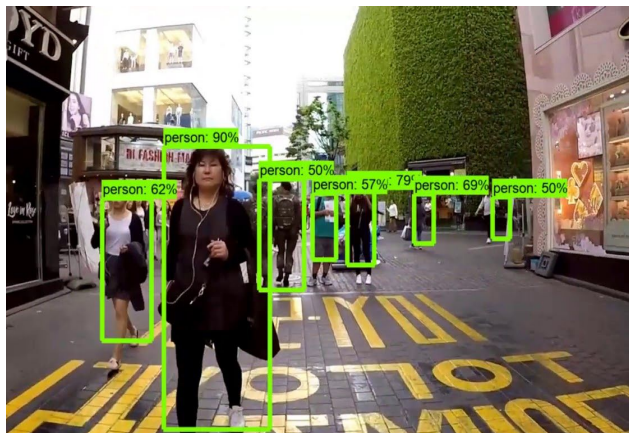
- ❑ Initial frame-by-frame analysis
- ❑ Lack of knowledge about field
- ❑ Looking into tracking algorithms after meeting with Austin



# Final Product Goals

1. Improvement on detection algorithm via background subtraction techniques

2. Implementation of efficient and reliable tracking algorithm





# UI Features

- ❑ UI design for data analysis display
- ❑ Python GUI generated from executable



Video analysis (hidden)





## Next Steps

**ASAP:** Installation of more cameras on other entrances of Druid Hill Park for diverse data

**Week 1-2:** Implementation of a tracking algorithm that counts the number of people entering and exiting over multiple frames

**Week 3-4:** Testing of algorithm via data analysis

**Week 5-6:** Develop Python GUI