

ParkSense

Aaron Alden, Spencer Karpatis, Zachary Rose

UT-Martin

October 12, 2023

Motivation

Background

- 1 Parking Shortage
- 2 Computer Vision



Technology

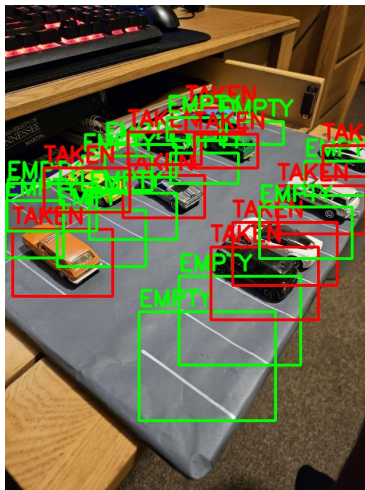
- ① Computer Vision and Machine Learning
 - Ⓐ OpenCV
 - Ⓑ Ultralytics: YOLOv8
- ② Hardware
 - Ⓐ Raspberry Pi 2 Model B
 - Ⓑ Raspberry Pi Camera Module



Goals

- ① Provide a web dashboard with lot information
 - Ⓐ Current spot availability
 - Ⓑ Predictive trends
- ② Set precedent for similar projects
 - Ⓐ Training custom data sets with machine learning
 - Ⓑ Portable computing and networking

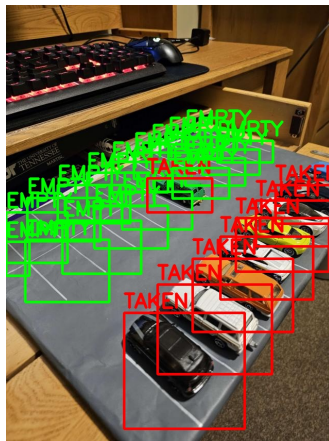
Demonstration



Webpage

Challenges

- 1 Compiling on low power devices
- 2 Converting camera feed to usable input



Future Work

- ① Monitor a real lot
- ② Push notifications
 - Ⓐ Optional messages through text or email
- ③ Statistical analysis of parking trends

Any Questions?

Questions?

Comments?

Further project/author information:

Please see our Github repo:

<https://github.com/Spencek7746/Senior-Design-Project>

