

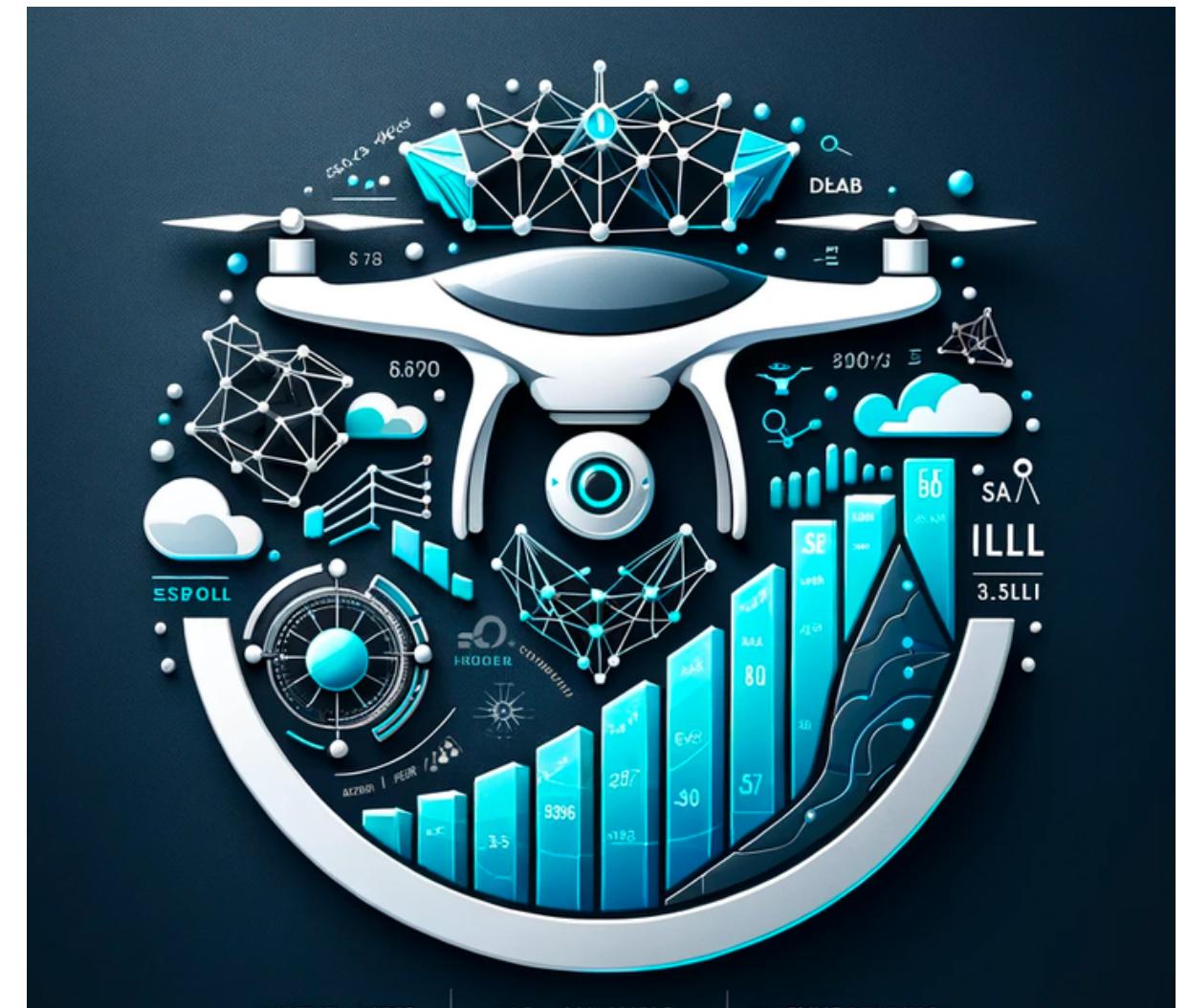


ASSURANT® CHALLENGE CONTENDERS

# FLiGHT SHIELD

Eyes in the Sky: Grounded Prices, Soaring Coverage

**Prepared by:** Mannan Anand and Shaashvat Mittal

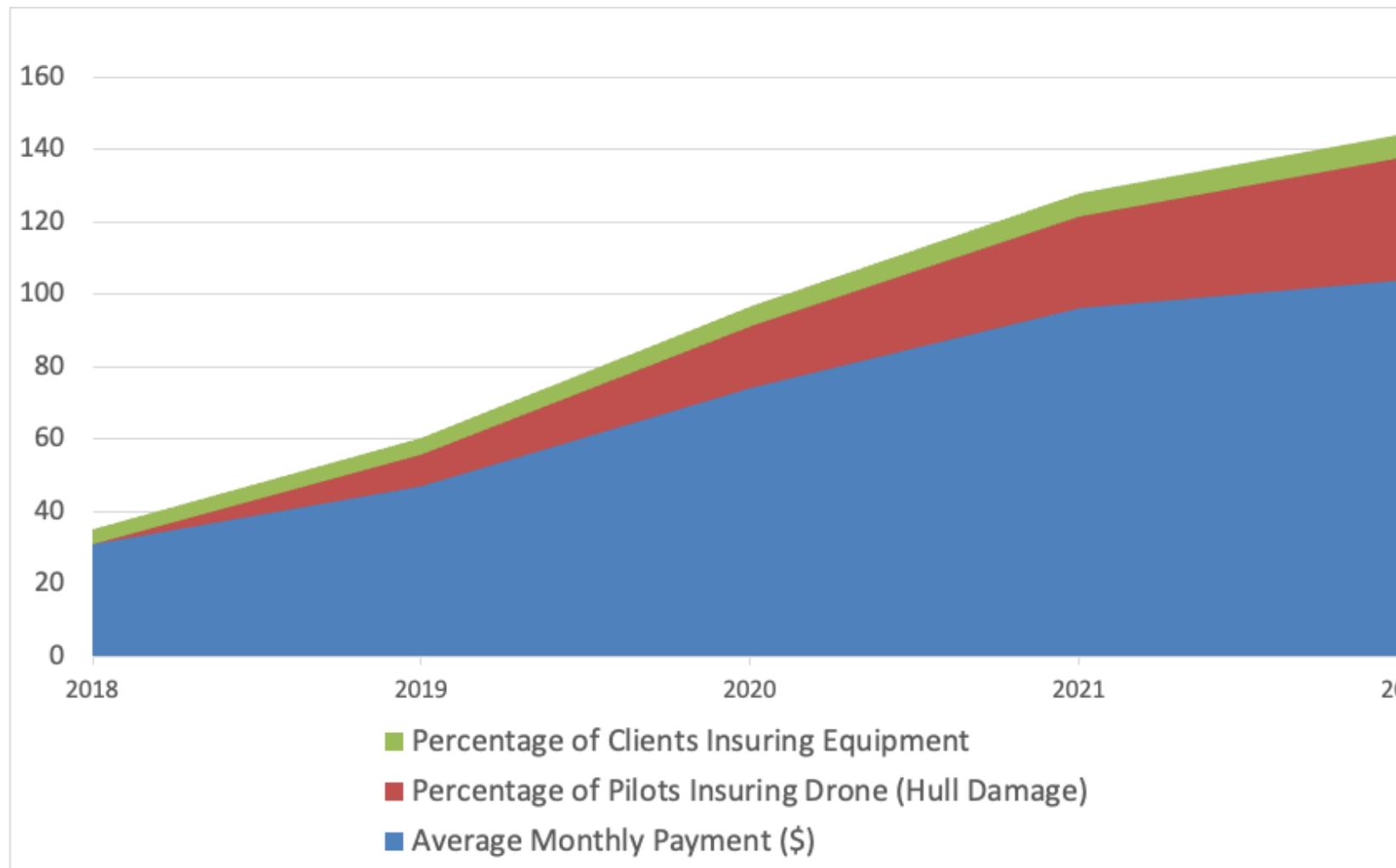


As debuted in Hacklytics 2024 at Georgia Tech

# THE POTENTIAL

## POSITIVE GROWTH EVERYWHERE

- AVERAGE MONTHLY PAYMENT • % OF INSURED PILOTS •
- AVG. DRONE VALUE • % OF INSURING EXTERNAL EQUIPMENT. •



## Something Is Up?

**Avg. Monthly Payments =**

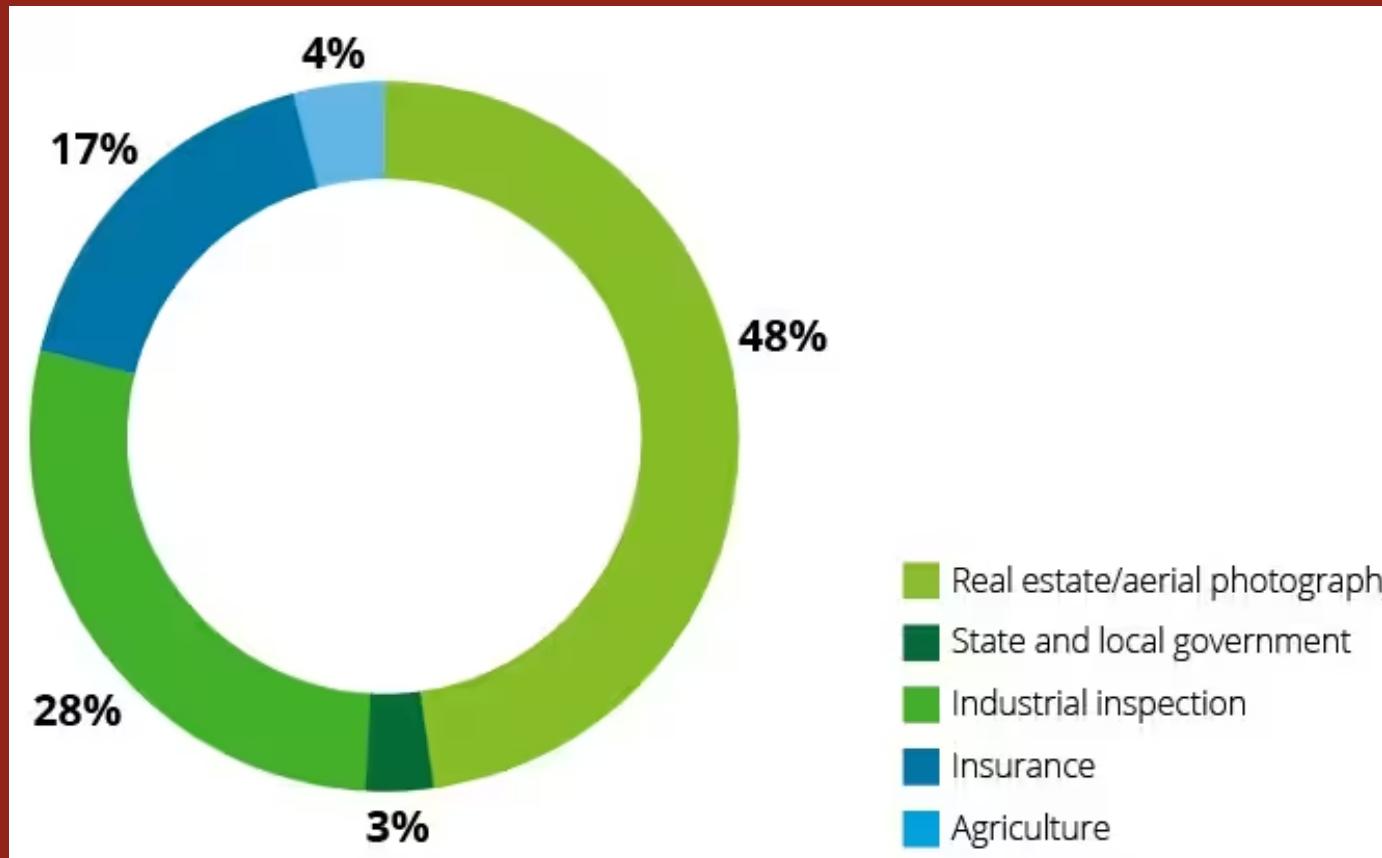
$$\begin{aligned} & - 439.68 + (0.15 \times \text{DroneVal}) \\ & + (7.51 \times \text{Insured Equipment}) \\ & + (0.63 \times \text{Insured Pilots}) \\ & - (32.69747 \times \text{Year}) \end{aligned}$$


Adapted from Skyscanner's Article:

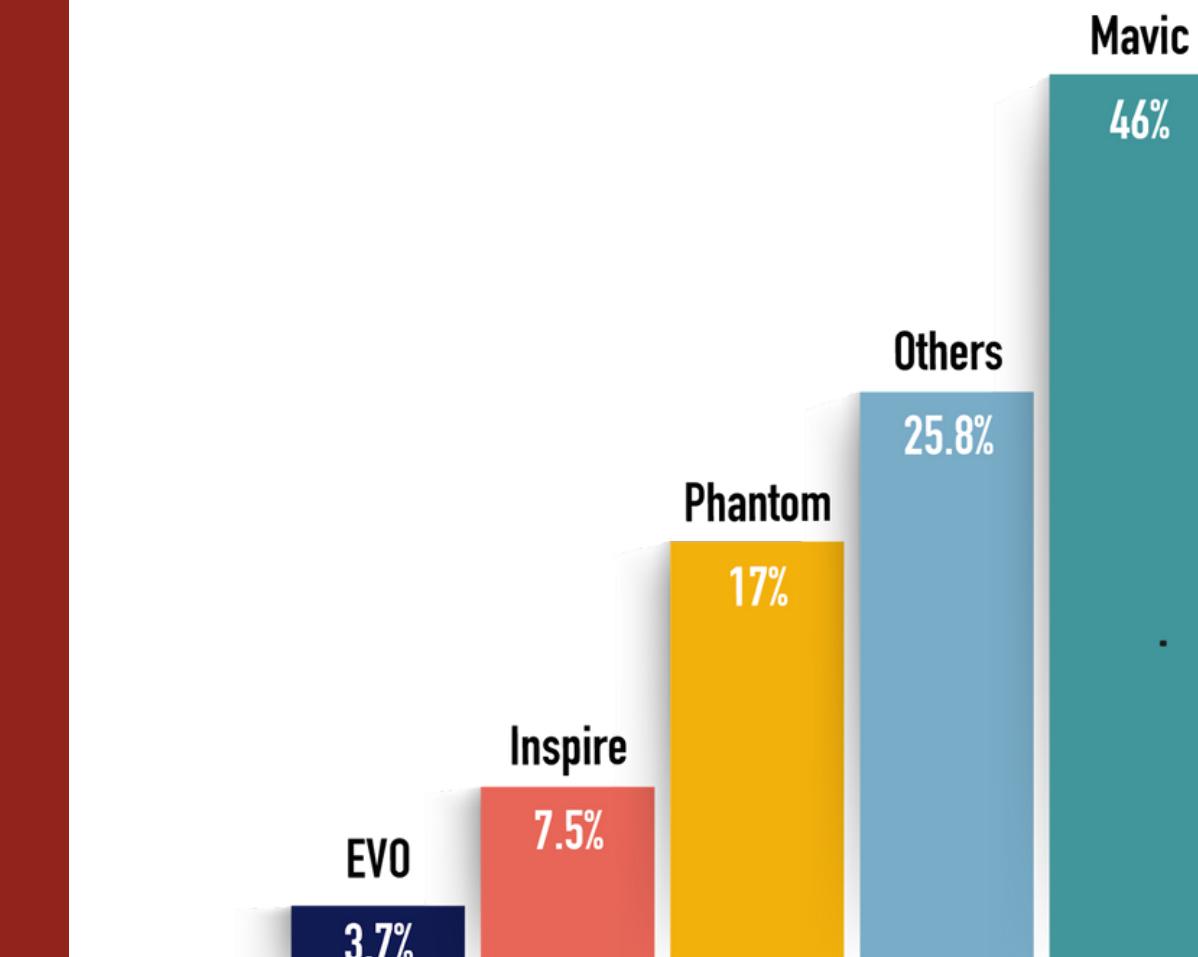
<https://www.skywatch.ai/blog/skywatch-drone-insurance-data-reveals-insights-on-drone-market-trends-in-2022>

# Understanding the Market

## Present Uses of Drones



Most insured drone brands by SkyWatch data



Source: [Federal Aviation Administration, FAA aerospace forecast, fiscal years 2018–2038](#)

[https://www.faa.gov/data\\_research/%20aviation/aerospace\\_forecasts/media/FY2018-38\\_FAAC\\_Aerospace\\_Forecast.pdf](https://www.faa.gov/data_research/%20aviation/aerospace_forecasts/media/FY2018-38_FAAC_Aerospace_Forecast.pdf)

# Methodology

- Scraping • Synthesizing Data • SAS-ing It Out

## SkyWatch's Quotation System

skywatch.ai

Start Date: 03/15/2024

Plan: Monthly

Liability Limit: \$1M Liability Limit (\$62.00)

Physical Damage Coverage (Hull): DJI Mavic (\$3.00)

Total Price: \$65.00

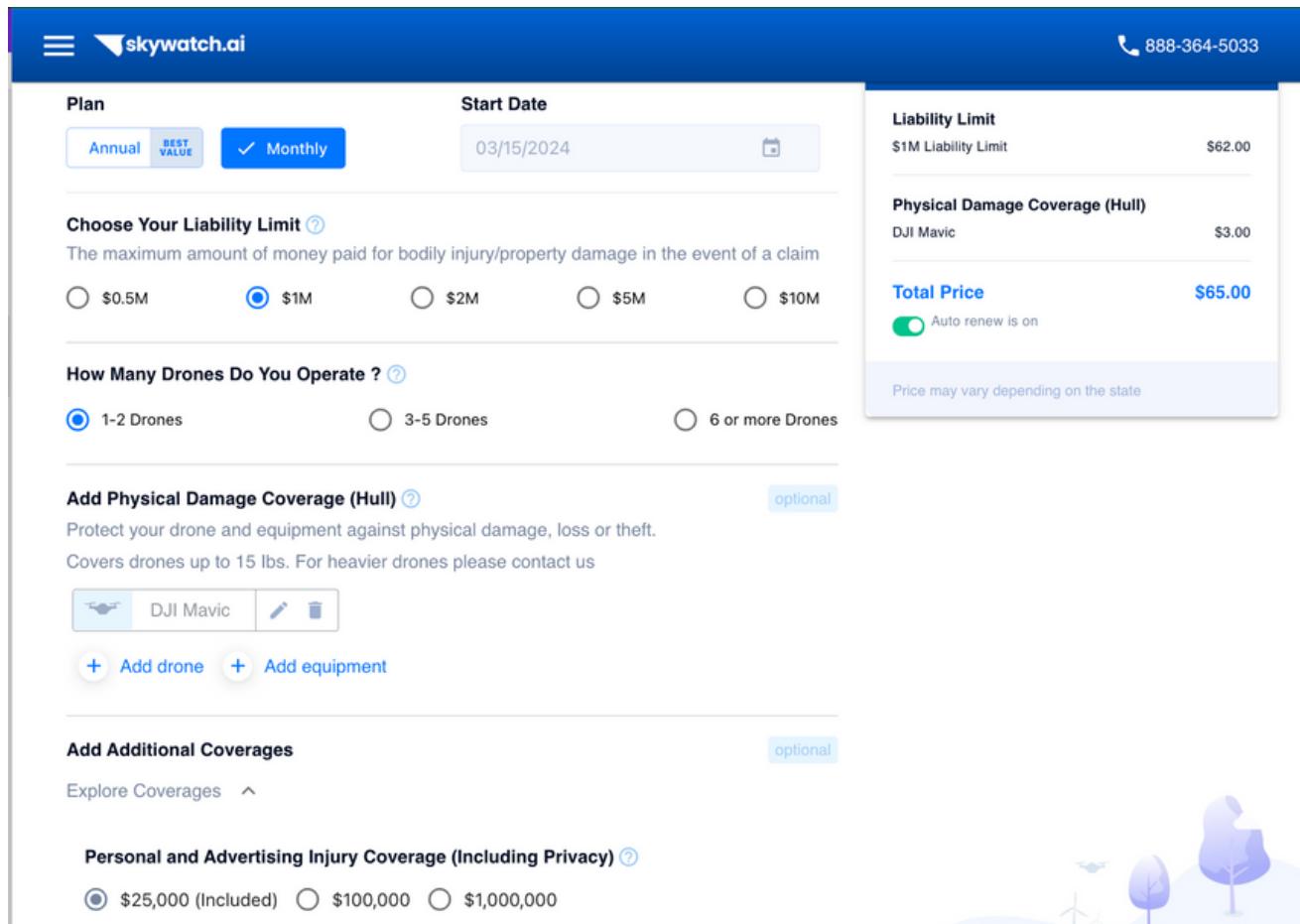
Choose Your Liability Limit: \$1M (selected)

How Many Drones Do You Operate?: 1-2 Drones (selected)

Add Physical Damage Coverage (Hull): optional

Add Additional Coverages: optional

Personal and Advertising Injury Coverage (Including Privacy): \$25,000 (Included) (selected)



## Synthesizing Data



## SAS Regression Output

The REG Procedure  
Model: MODEL1  
Dependent Variable: TotalPrice

Number of Observations Read: 100  
Number of Observations Used: 100

| Analysis of Variance |    |                |             |         |        |
|----------------------|----|----------------|-------------|---------|--------|
| Source               | DF | Sum of Squares | Mean Square | F Value | Pr > F |
| Model                | 8  | 221010268      | 27626283    | 680.45  | <.0001 |
| Error                | 91 | 3694591        | 40600       |         |        |
| Corrected Total      | 99 | 224704859      |             |         |        |

|                |            |          |        |
|----------------|------------|----------|--------|
| Root MSE       | 201.49418  | R-Square | 0.9836 |
| Dependent Mean | 2868.99560 | Adj R-Sq | 0.9821 |
| Coeff Var      | 7.02316    |          |        |

Parameter Estimates

| Variable  | DF | Parameter Estimate | Standard Error | t Value | Pr >  t |
|-----------|----|--------------------|----------------|---------|---------|
| Intercept | 1  | -398.27669         | 82.55587       | -4.82   | <.0001  |
| BasePrice | 1  | 1.04591            | 0.03105        | 33.69   | <.0001  |

# Understanding the Market

## TOTAL PRICE

– 398.28 + **(1.05 × BasePrice)**  
– (0.01 × Drone Value)  
**+ (1.11 × Liability Price)**  
– (0.01 × Medical Expense)  
+ (1.17 × Medical Expense Price)  
**+ (148.97 × Number Of Drones)**  
**+ (1.45 × Personal Injury Price)**  
**+ (1.17 × Additional Equipment Price)**

## PREDICTORS

Significant  
**Not Significant**  
Significant  
**Not Significant**  
**Not Significant**  
Significant  
Significant  
Significant



“Scraped” from Skyscanner’s Quotation System  
<https://portal.skywatch.ai/insurance/monthly>

# THE SOLUTION

# Optimizing Costs

## Rewarding Reliability

### SAFETY SCORE

**0.2 \* (Battery at Landing (%) / 100)**

**- 0.1 \* (Flight Duration (min) / 30)**

**- 0.0001 \* (Distance From Pilot (m) / 500)**

**- 0.0001 \* (Maximum Altitude (ft) / 400)**

**+ 0.05 \* (Number of Flights Submitted / 50)**

**+ Return To Home Bonus**

### NORMALIZED SAFETY SCORE

$$\frac{\text{Safety Score} - \min(\text{Safety Score})}{\max(\text{Safety Score}) - \min(\text{Safety Score})}$$



Normalized Safety Score is Proportionally Assigned a Discount for 0.3 or Up. Penalty Otherwise.



# Driving Results

## Sweet Sweet Discount

### TOTAL CHARGE AFTER DISCOUNT

**539.18205**

- + **0.87272** × Hull Damage Charge
- + **0.85877** × Liability Charge
- + **0.93706** × Number of Drones Charge
- + **0.67196** × Personal Ad Injury Coverage Charge
- + **0.72985** × Medical Expense Charge
- **1079.42409** × Safety Score



## OUR USP

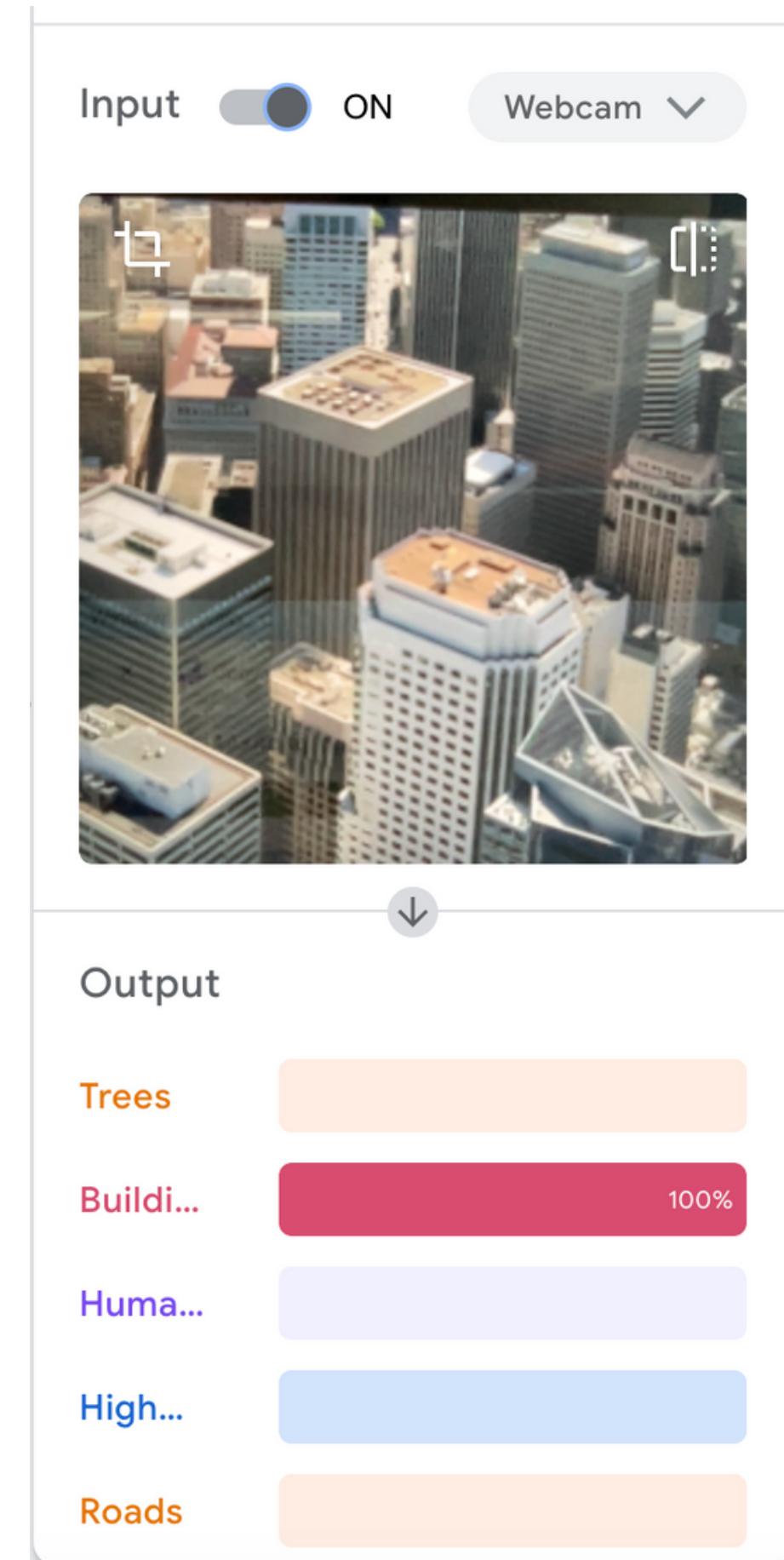
Rapid Response  
Visualization

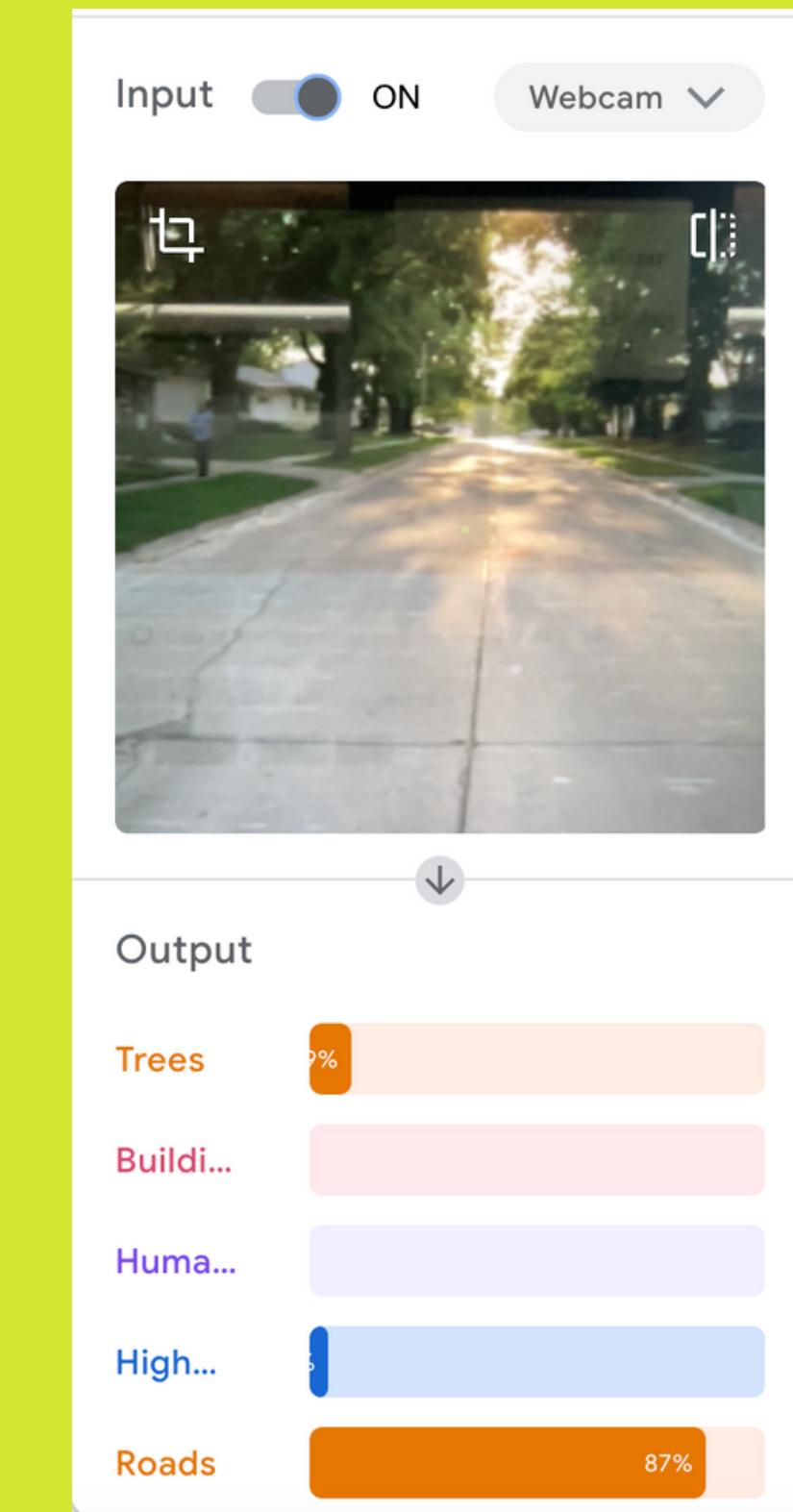
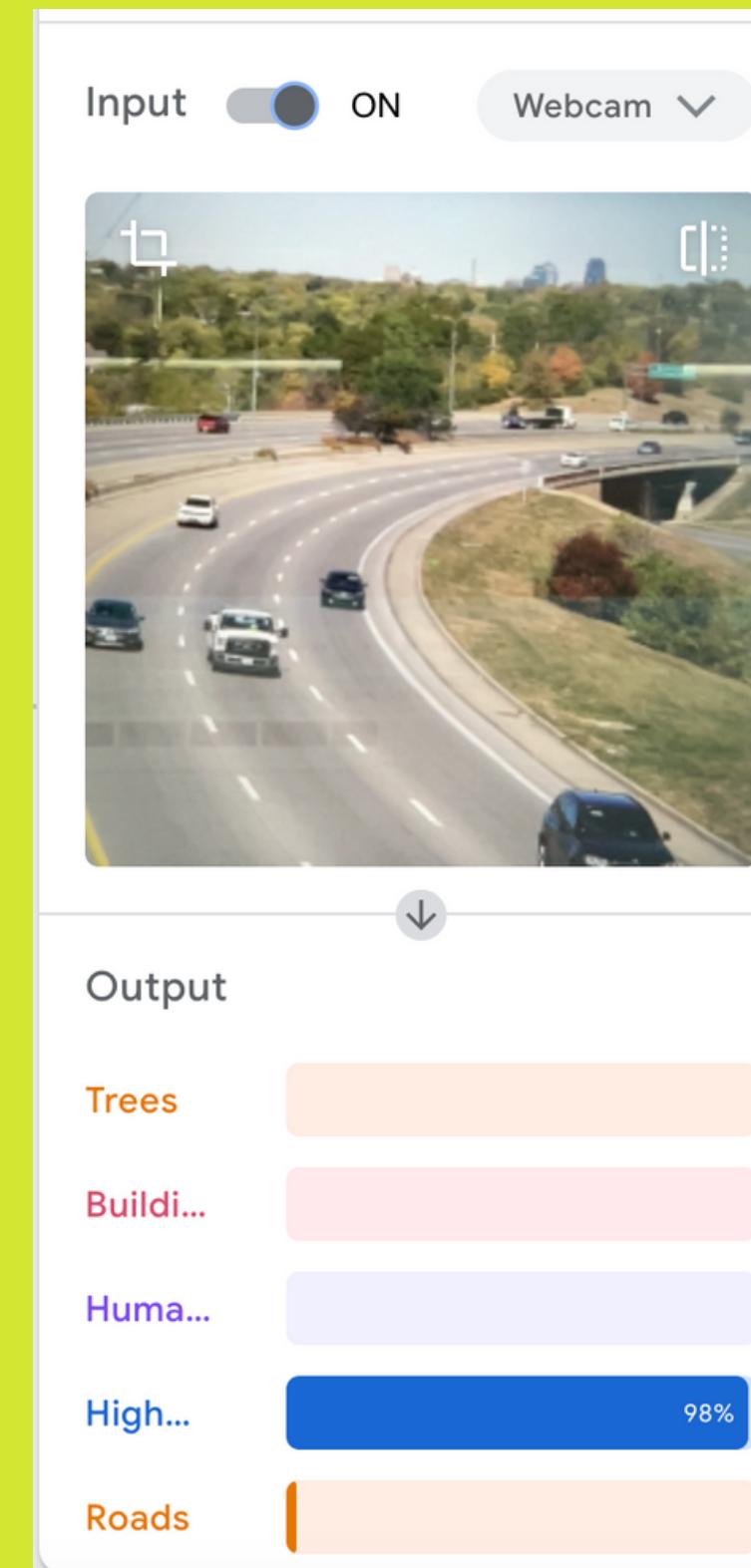
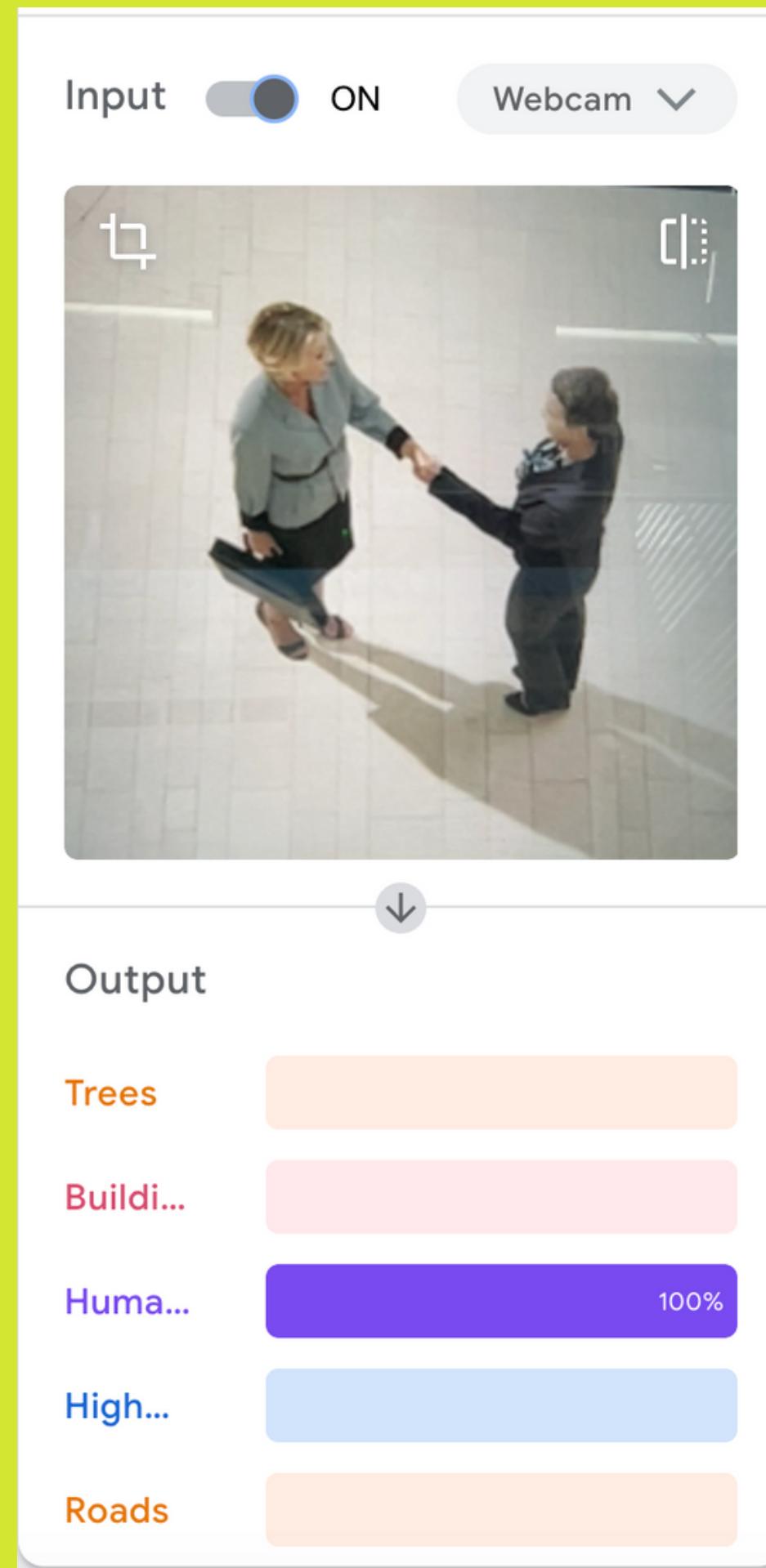
# Accuracy Speaks

With highly accurate LLM model, we can quickly and accurately determine the object in front of our drones.

Giving us an edge ahead from the classic insurance companies.

We rely on what we see

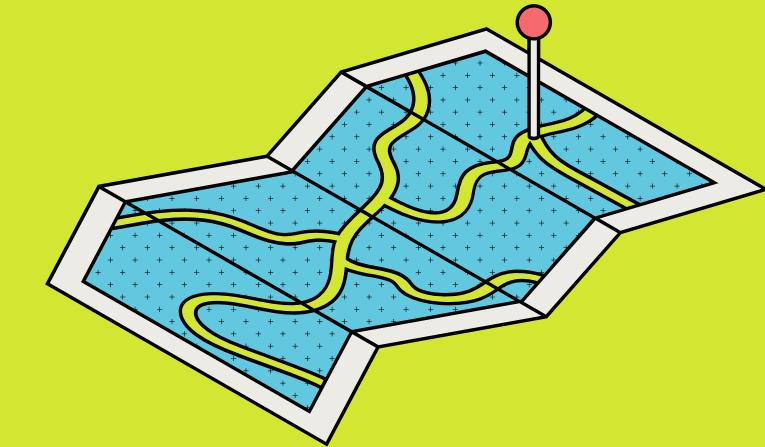
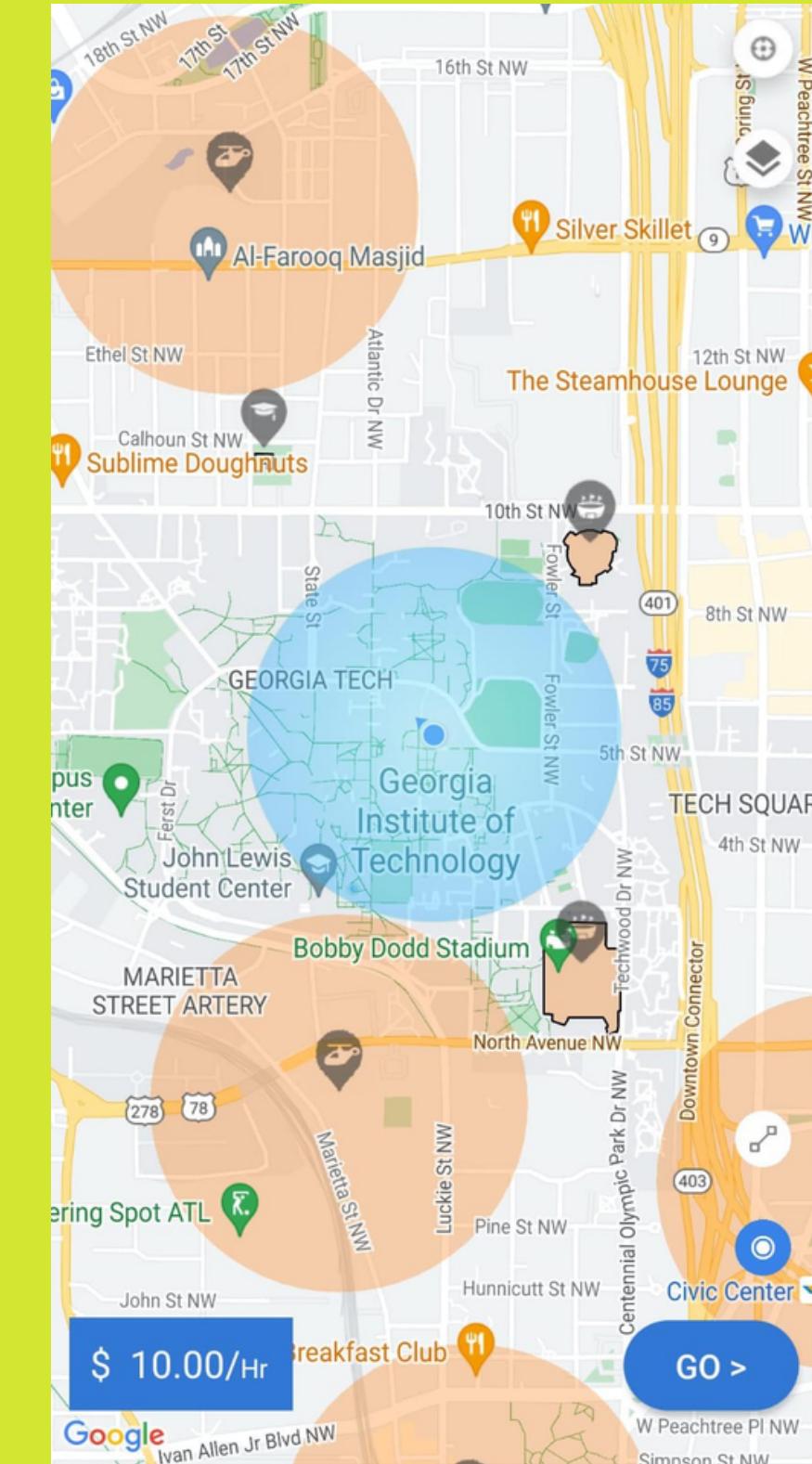
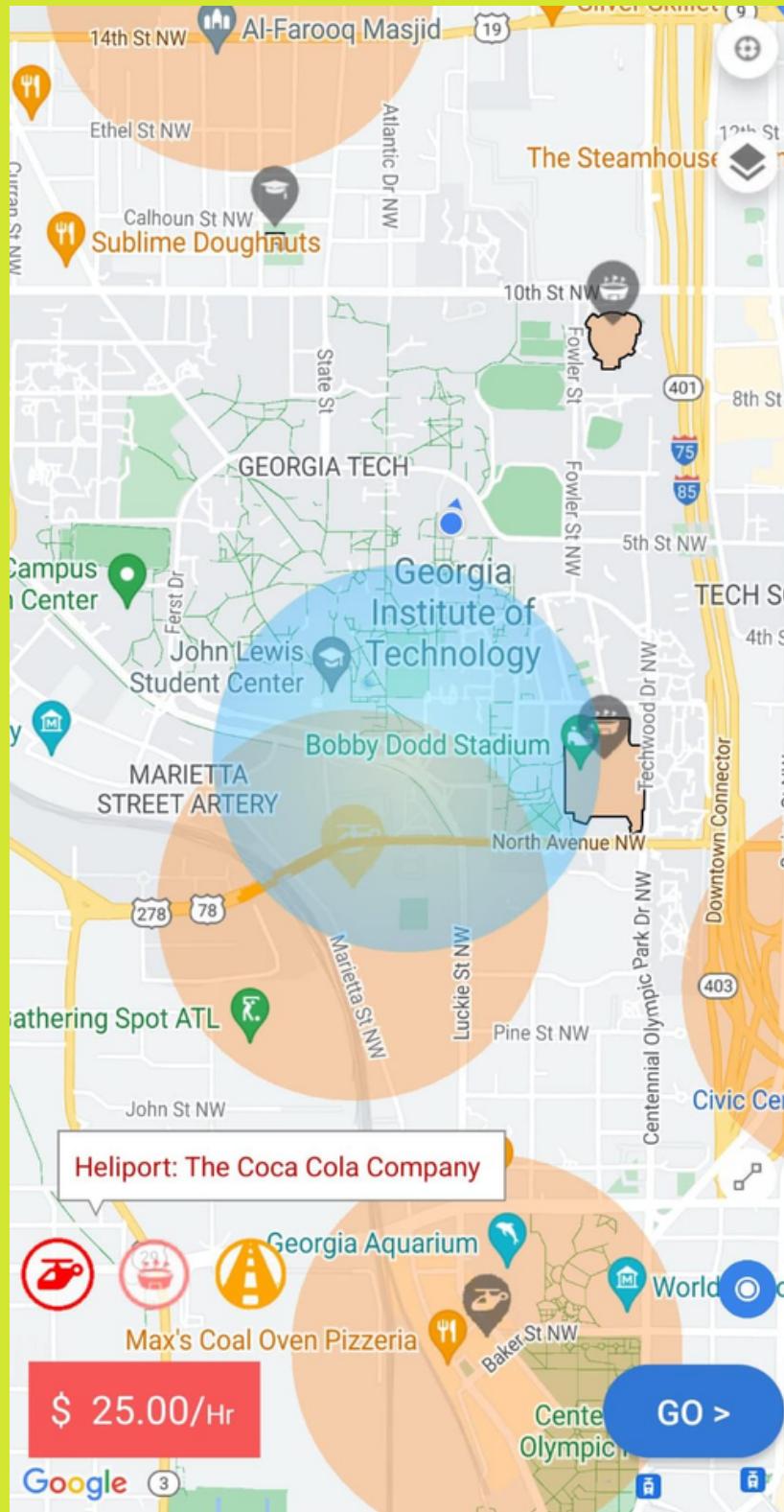




**Correctly distinguishes even between Highways and Roads.**

# Future Projections

## Integrating Google Maps



# Let's talk about Business

## FlightShield

Discounts    Why Us    Get a Quote    Upload Flight Logs

Exclusive discounts for responsible drone enthusiasts.

### Partnered with Leading Drone Brands

#### DJI

Innovators in drone technology and aerial photography.

[DJI Data Reader](#)

[Upload Flight Logs](#)

#### Parrot Drones

European leaders in drone and flying solutions.

[Upload Flight Logs](#)

### What Sets Us Apart

- **Customized Coverage:** Tailored insurance based on your flying habits.
- **Safety Rewards:** Discounts for maintaining a high safety score.
- **Real-Time Support:** 24/7 assistance for all your needs.
- **Flexible Plans:** Choose what fits you best, annual or hourly.

# Limitations We Have Encountered

A

## 30% Discount Is Generous?

Industry Experience Required to Assume Permissible Losses

B

**Access to Tools**  
Restricted paywalls to APIs are a Roadblock Towards UI Supermacy

C

**Lack of Data**  
We Generated Synthetic Datasets and Regressed to Tets Hypothesis



We Tried, And Will Keep Trying  
**Welp!**

# Thank you.

