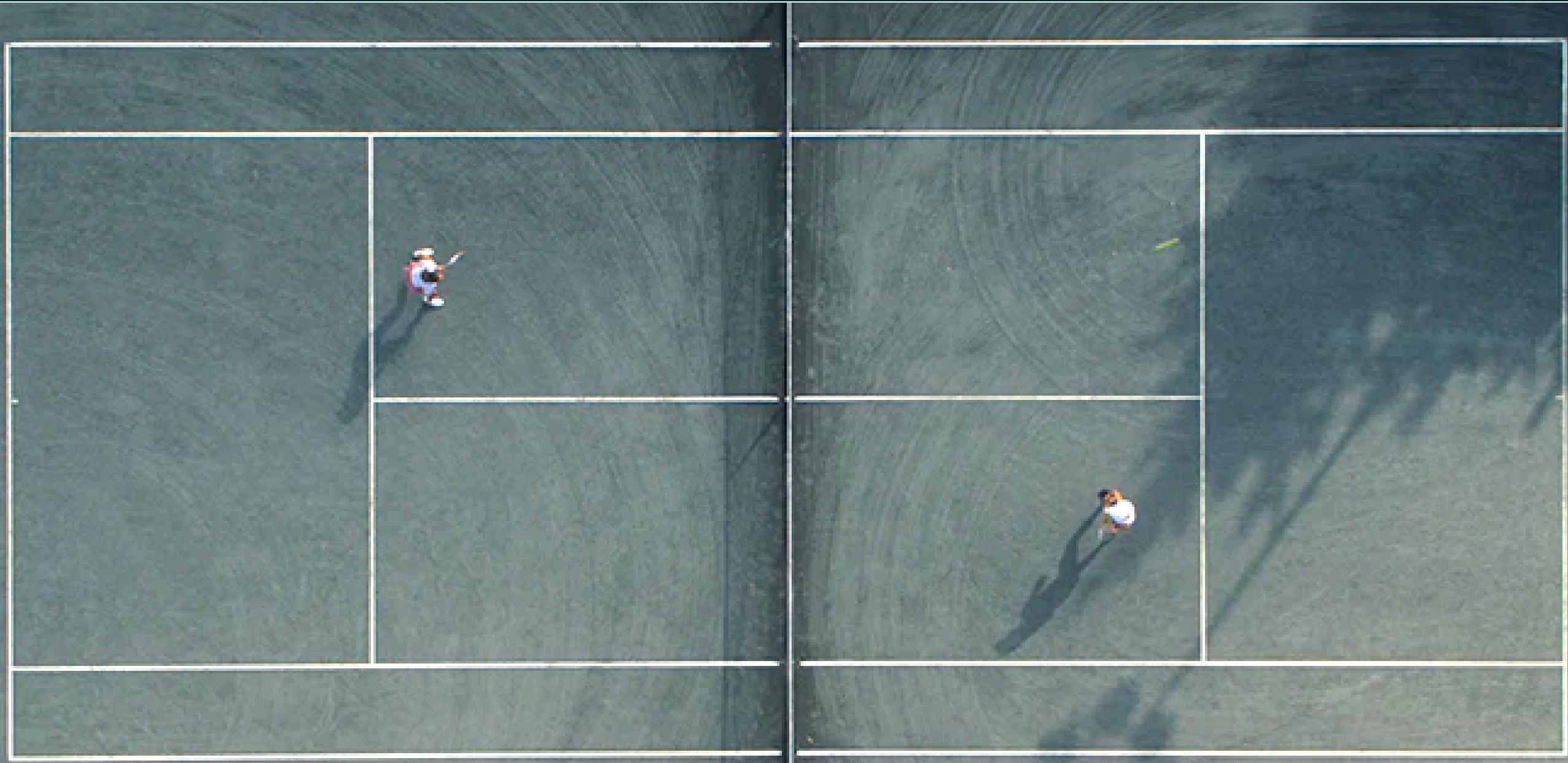


Tennis Shot Analysis:

AI Tennis Ball Machine



Project Goal:

To help companies with
computer vision for their
A.I. Tennis Ball Machines



Data:

I created all the data used in this analysis.

The dataset consisted of approximately 6,000 images

Forehand and Backhand Tennis Shots

forehand →



Methods:

Filming/editing videos of two different tennis shots:

- Forehands
- Backhands

Extracted frames from video files

Resizing Images

Modeling

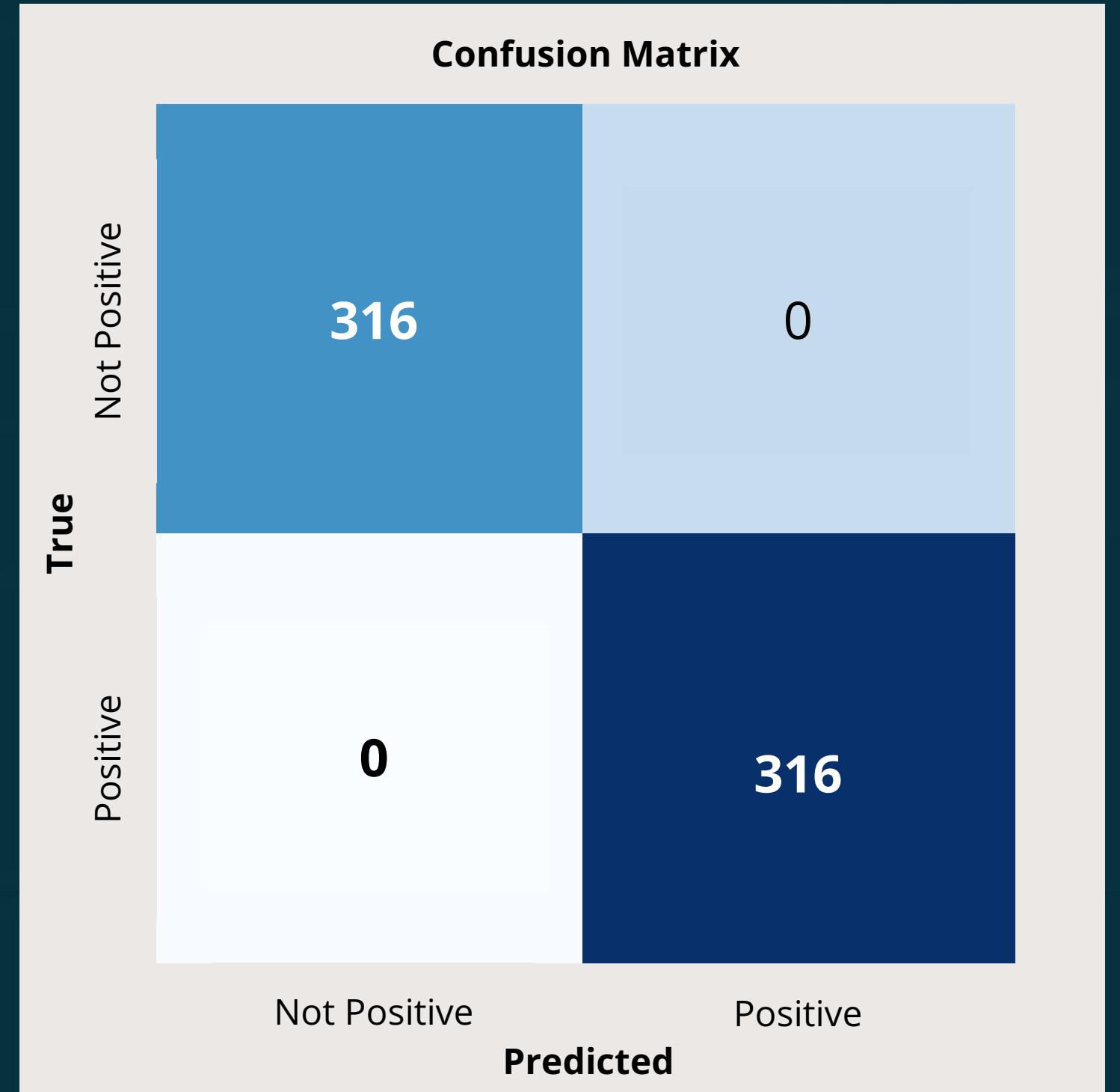
backhand →



Results

$$\left(\text{true positives} + \text{true negatives} \right) \div \text{total number of instances} = \text{accuracy}$$

- Model showed 100% on accuracy
- 10% of the dataset sampled on unseen data



Model Evaluation

Suspiciously high



Most likely over-fitting due
to low variance in the
data.



Limitations



Small sample of data
Low variance in the dataset

Conclusions

- The model is performing perfectly on a low-variance training data.
- Model is likely overconfident



Reccomendations

- Increase the amount of variance in the dataset.
- Use images from start of swing preparation until completion of swing.

Next Steps

- Get 10x more data:
 - Different People
 - Different locations
 - Different angles



Thank you



Questions?

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