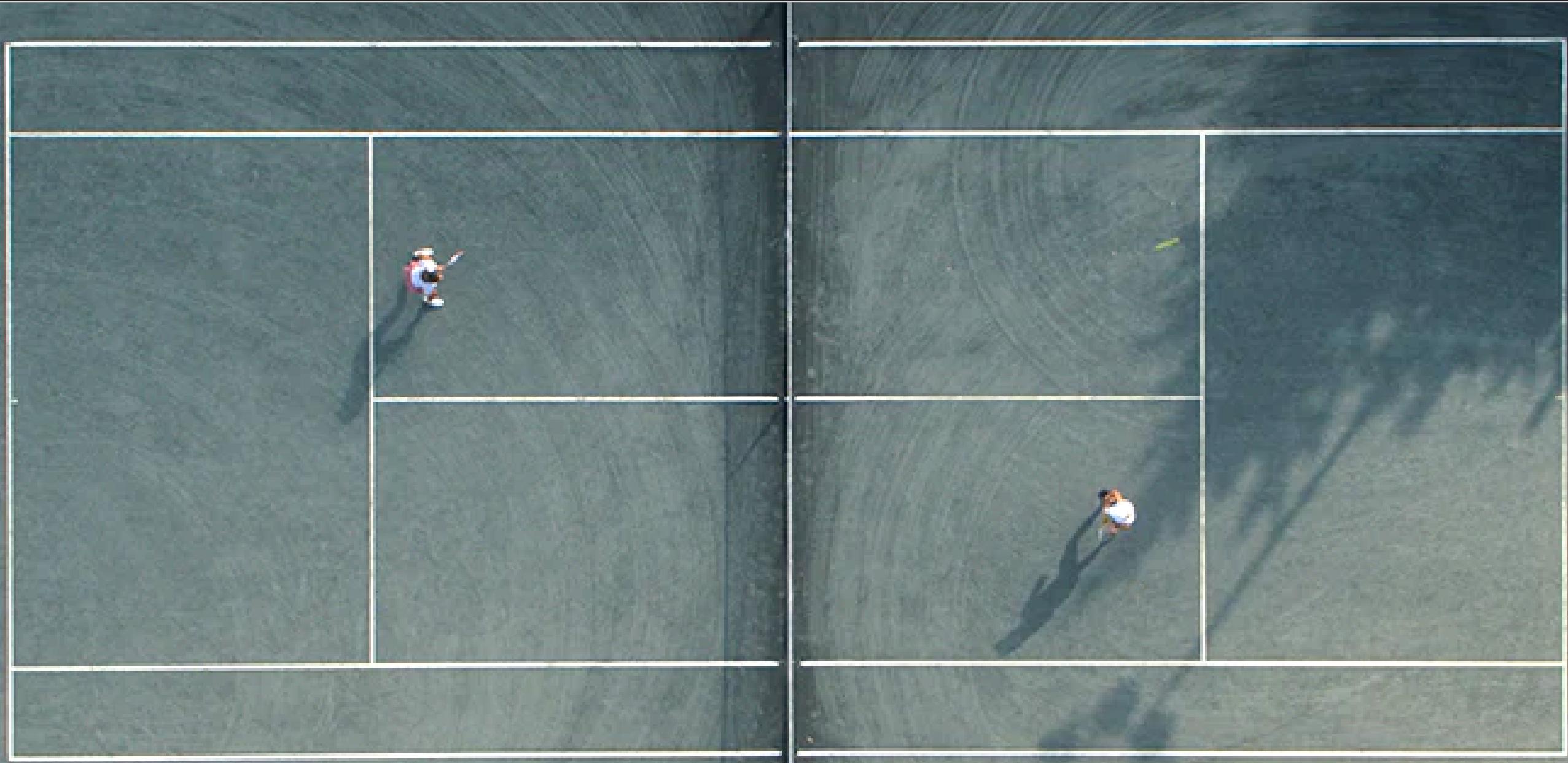


Tennis Shot Analysis:

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

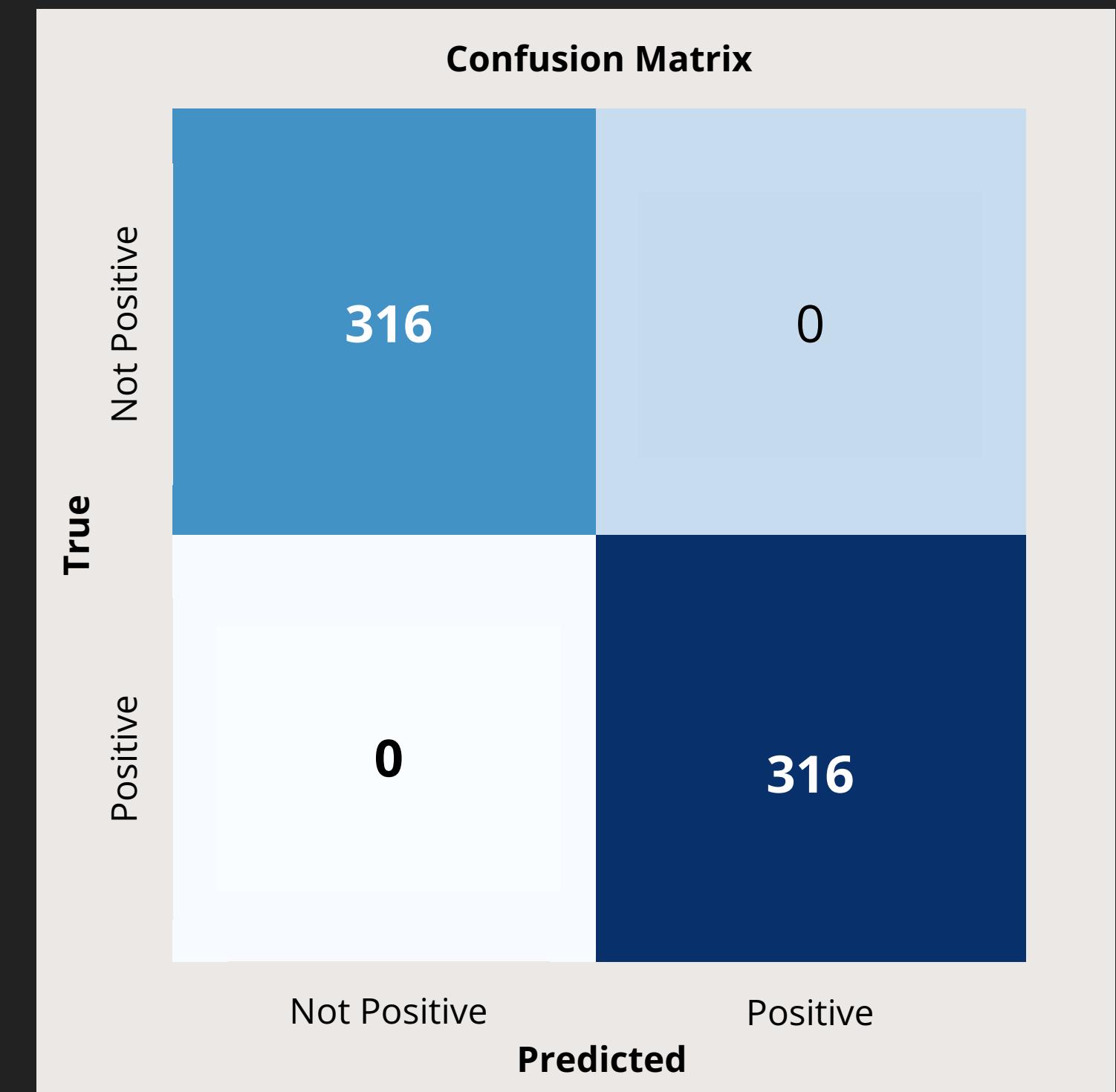
backhand →



Results

$$\text{Accuracy} = \left(\frac{\text{true positives} + \text{true negatives}}{\text{total number of instances}} \right) \times 100\%$$

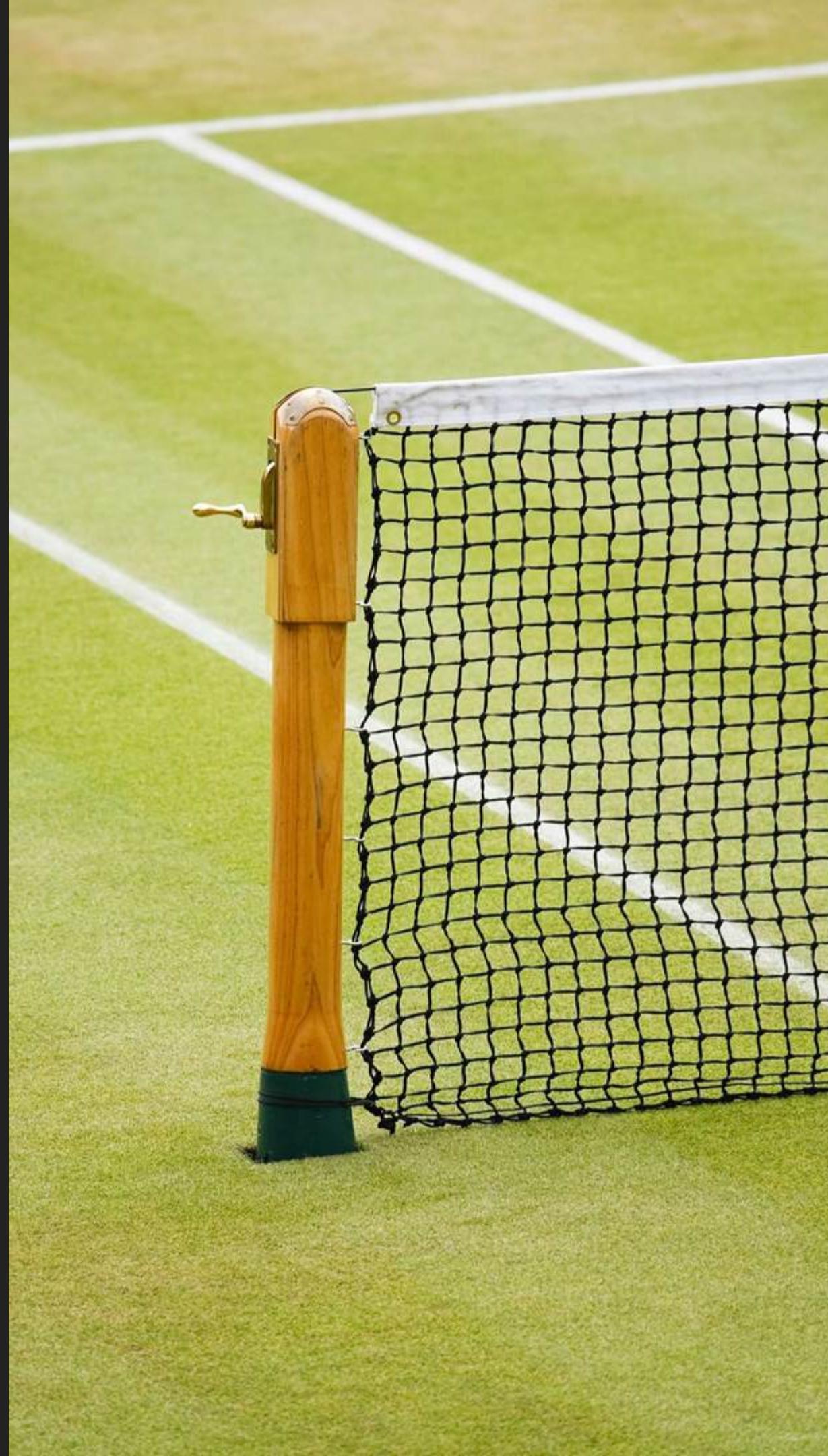
- Model was showing 100% on accuracy
- 10% of the dataset sampled on unseen data



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

- Model is performing perfectly on a low variance dataset
- Model is overconfident

Recomendations

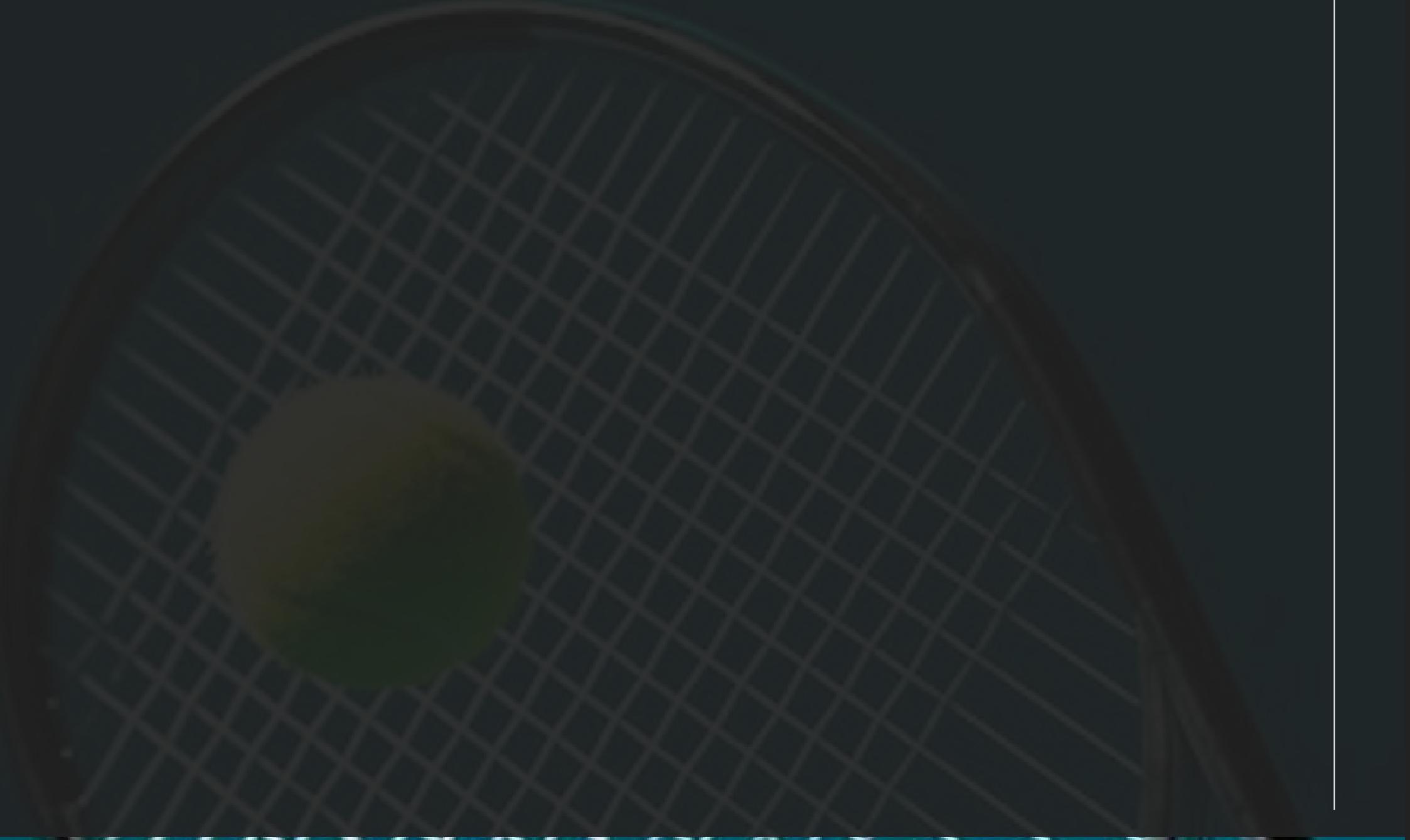
- Increase the amount of variance in the dataset.
- Use images from start of swing preparation until completion of swing.



Next Steps

🎾 Get 10x more data:

- 🎾 Different People
- 🎾 Different locations
- 🎾 Different angles



Thank you



Questions?

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