

# ACTIVE VISION

A real-time solution that leverages computer vision to track the tennis ball, court, and player movements.

—bringing pro-level tennis insights to any court, instantly

## GOALS

*To enhance tennis performance with smart vision.*

We aim to provide detailed, data-driven insights to revolutionize tennis training, helping users optimize their mechanics and elevate performance.

Available on Android app

Real-time Feedback

Data-Driven Training

## Stakeholders

**Android phone user:**

Enjoy smooth access on Android with an intuitive interface designed for everyday, non-tech users.

**Advanced tennis player:**

Track ball speed and key stats in real time to challenge yourself and crush personal bests.

**Tennis beginner:**

Improve faster with smart visual feedback and instant setup—no hassle, just play.

**Tennis coach:**

View live ball landing zones and player data to streamline training and analyze matches efficiently.

## Implementation summary

1. Integrated ball tracking, player detection, pose estimation, and court detection models
2. Converted and optimized models for Android deployment



3. Enable real-time performance on mobile
4. Implemented ball speed calculation
5. Designed a clean, user-friendly interface for seamless interaction

Ball Speed

Ball Trajectory

Court Detection

Swing Recognition

Player Tracking

Player Skeleton

## OUTCOMES

## Impact

**Accessible Tech:** Easy access from any Android devices, no extra costly gear.

**Smarter Training:** Real-time tracking for players, swings, and courts for data-driven practice.

**Better Coaching:** Gives coaches instant insights to refine techniques and training plan.

Scan here to watch video!

