



# **Demo #1: Baseball Visual Swing Training (P20071)**

Thomas Amuso, Joseph Mylott, Emmanuel Okafor, and Daniel Zeglen



# Test Plan

- Test our program's consistency with analysis on the same video multiple times
- Compare our program to HitTrax, Rapsodo, and Blast Motion metrics for accuracy
- Compare videos with batting cage net in front of camera vs. no net in front of camera
  - The netting is an issue for the video analysis
  - Need to remove the net in the videos - the ball gets lost in the netting
  - Plan: build protective camera housing and take videos with no net in the way



# Video Quality and Set Up

	Stationary (Tee) or Pitched	Pitch Speed	Background	Camera Azimuth Location	Camera Depth Location	Camera Height	FPS	File Name
	Toss	20	Noisy	2' 3.5"	13' 4"	3' 4"	960	C0076
	Pitch	35	Noisy	2' 3.5"	13' 4"	3' 4"	960	C0078
	Toss	20	Noisy	2' 3.5"	9' 8"	3' 4"	480	C0079
	Pitch	35	Noisy	2' 3.5"	9' 8"	3' 4"	480	C0080
	Toss	20	Solid	2' 3.5"	13' 4"	3' 4"	960	C0069
	Pitch	35	Solid	2' 3.5"	13' 4"	3' 4"	960	C0071
	Toss	20	Solid	2' 3.5"	9' 8"	3' 4"	480	C0072
	Pitch	35	Solid	2' 3.5"	13' 4"	3' 4"	960	C0074
1	Stationary	-	Noisy	2' 3.5"	13' 4"	3' 4"	960	C0065
2	Stationary	-	Noisy	2' 3.5"	9' 8"	3' 4"	480	C0066
3	Stationary	-	Solid	2' 3.5"	13' 4"	3' 4"	960	C0067
4	Stationary	-	Solid	2' 3.5"	9' 8"	3' 4"	480	C0068
							24p 50M	
				* reference is front of home plate	* reference is imaginary line bisecting home plate	We might not be able to control camera height just because of the tripod we have available to us.		

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# Object Tracking Code



# Risk and Problem Tracking

Problem #	Problem Name	Description	Possible Remedies	Fixed? Y/N	How?
1	Ball tracking	The ball is moving so quickly, that the program has a tough time recognizing the ball continuously	Coding techniques?	Y	Object tracking using opencv in python
2	Video quality	The Sony RX100 VI high frame rate video quality might pose some issues with accurately tracking things	New Camera? Coding techniques?	Y	Camera is fine, object tracking using opencv in python
3	Machine Learning	We need a larger sample of videos for our system to use as a database for learning how to better analyze swings	Videos from other cameras? More videos from Sony RX100 VI?	N	Pending future progress
4	Net blocking view	Batting cage net blocks moiton tracking analysis	Build camera housing	N	In progress
5	GUI Display	Creating a visual display for the output metrics	Text file, excel file, etc.	N	In progress