



# HomeRunHero

**BASEBALL**  
**HACK DAY**



## Group Cool

- Kexin(Seven) Li
- Wahib Barqawi
- Pranjal Bhatt



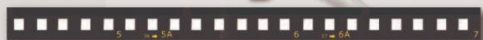
# 1. Intro

## Our Thinking Process

- **Issue**  
We do not know how to play baseball.
- **User Pain Point**  
Hiring a actual coach is expensive
- **Our Solution**  
The AI could analyze a player's performance data, such as their swing, speed, and accuracy, and provide feedback and recommendations for improvement.



# FRAME by FRAME



After diving into the swing of Spencer Torkelson—the top overall pick in this year's MLB draft—a couple issues ago, we decided to dive into the second overall pick with our latest breakdown. Heston Kjerstad has raked ever since he stepped on campus as an Arkansas Razorback. As a freshman he hit .322 with 14 home runs, earning multiple All-America nods and SEC Freshman of the year. His sophomore year was more of the same, as he blasted 16 homers and touted a .329 batting average. That summer, he suited up for the USA Collegiate National Team, where he hit .395 and slugged .651 in 14 games. Kjerstad began 2020 as a unanimous First Team Preseason All-American from five separate media outlets, and cemented his standing in this past June's draft by hitting .448 in 16 games with the Hogs, with six home runs—including this mammoth blast to dead center against Texas at Minute Maid Park in Houston.

Presented by  
**E**COACH

Chris Burke, an ABCA/Rawlings All-American, played in the major leagues for six seasons between 2004-2009 for the Houston Astros, the Arizona Diamondbacks and the San Diego Padres. He was drafted by the Astros in 2001 as the 10th overall pick after playing for the University of Tennessee. Chris owns and operates Chris Burke Baseball in Louisville, Kentucky and serves as the coaching director for eCoach Sports. He is also a college baseball analyst for ESPN.



**Chris Burke**

1) He starts with a slightly open upright stance. Very comfortable-looking posture with his hands low and his bat vertical. I like how his face is square to the pitcher so he has both eyes on him as he awaits the delivery.

2) This is an aggressive leg kick, or more accurately named, a knee lift. Notice as he lifts his knee all the way to his belly button his hands lift at the same time. He does a really good job of making this move early enough to allow himself to gather and land as he reads the pitch. This is a difficult move to pull off consistently but his ability to do it shows you his level of core strength and athleticism.

3) As Kjerstad makes his move to the ball, notice how he moves the knob of the bat and his back knee in unison. It's almost like they are attached by a string. This shows how in sync his lower body and upper body are as he works to efficiently get the barrel on plane.

4) At contact, you can see how much he has used his legs to drive. His back foot has pushed so hard into the ground that it has now moved about 4 inches forward from where he started. Don't miss how he stays behind the ball with his upper body. This allows the bat to get out in front quickly and allows the bat to start working up and create launch.

5) I mentioned earlier how his load shows his great balance and core strength. This frame is another example of that. As Kjerstad moves through the ball, his bat is in a classic high follow-through position (as if he's thrown the ball over the CF wall with his barrel) and he has perfectly maintained his spine angle. The ability to stay over the zone through impact allows for the full compression and maximum distance. Man that move looks good!

6) Here he is at the finish. Notice how much his torso has rotated. This allows for him to launch the ball well over the 408 sign in dead center. Wow! The functional mobility of this swing would suggest that he's going to be hitting the ball out of MLB parks for years to come!

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# Our idea

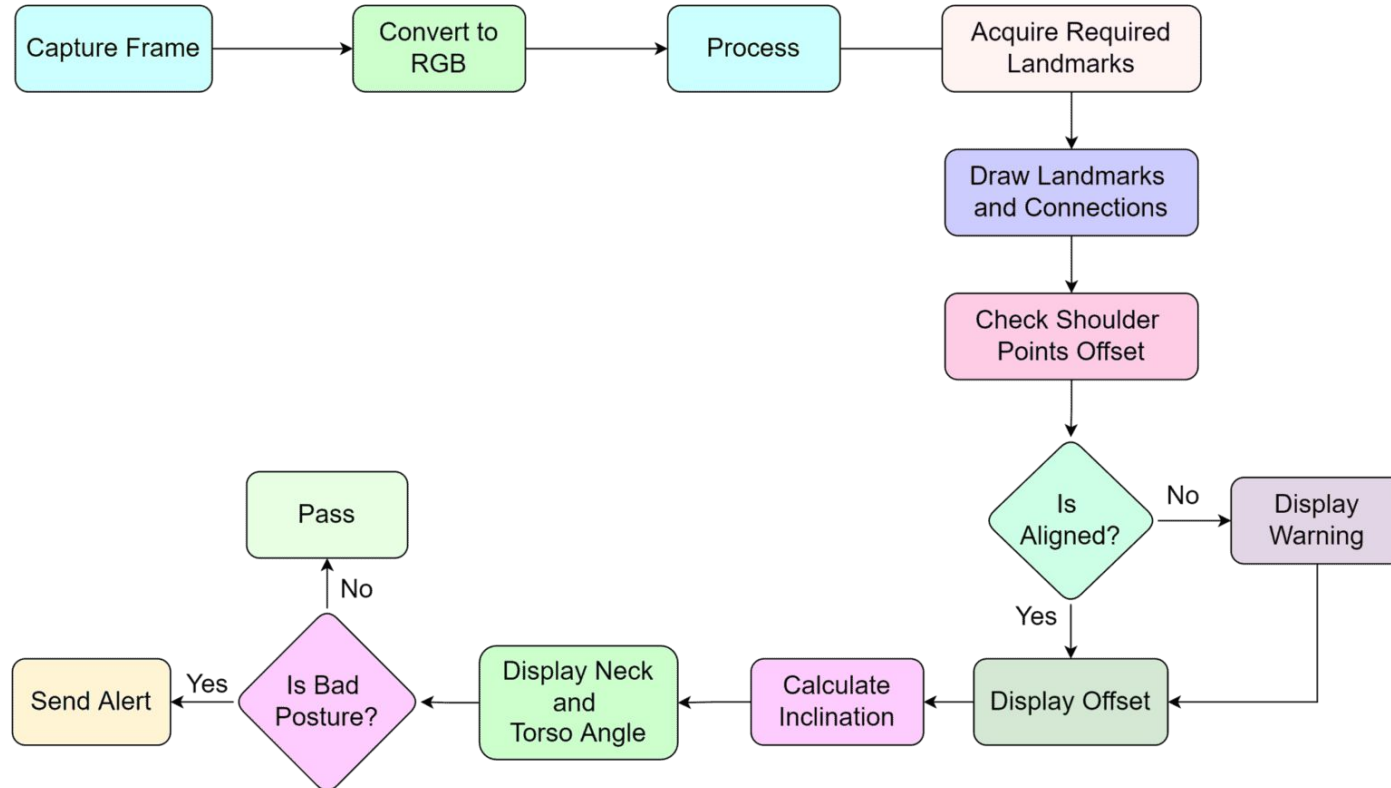
To provide personalized coaching and training to baseball players, using artificial intelligence and machine **learning algorithms**. The platform could analyze a player's performance data, such as their swing, speed, and accuracy, and provide feedback and recommendations for improvement.

The business model for a Personal Baseball Coach AI could involve selling the technology directly to players, teams, or coaches, or providing a subscription-based service that includes ongoing coaching and support.

Additionally, the company could generate revenue through partnerships with baseball equipment manufacturers or by integrating the technology into existing baseball training programs.

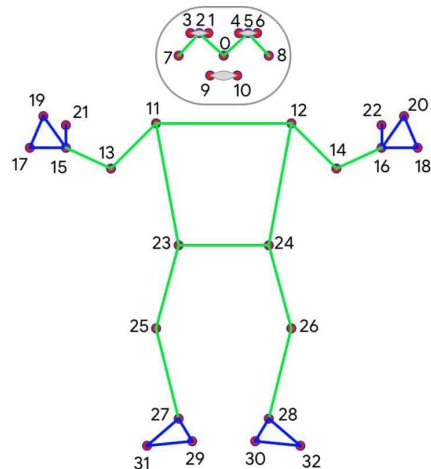


# Body Posture Detection and Analysis Application Workflow



# Identify pose using MediaPipe

MediaPipe is an open-source framework for building pipelines to perform computer vision inference over arbitrary sensory data such as video or audio.



- |                    |                            |
|--------------------|----------------------------|
| 0. nose            | 17. right pinky knuckle #1 |
| 1. right eye inner | 18. left pinky knuckle #1  |
| 2. right eye       | 19. right index knuckle #1 |
| 3. right eye outer | 20. left index knuckle #1  |
| 4. left eye inner  | 21. right thumb knuckle #1 |
| 5. left eye        | 22. left thumb knuckle #2  |
| 6. left eye outer  | 23. right hip              |
| 7. right ear       | 24. left hip               |
| 8. left ear        | 25. right knee             |
| 9. mouth right     | 26. left knee              |
| 10. mouth left     | 27. right ankle            |
| 11. right shoulder | 28. left ankle             |
| 12. left shoulder  | 29. right heel             |
| 13. right elbow    | 30. left heel              |
| 14. left elbow     | 31. right foot index       |
| 15. right wrist    | 32. left foot index        |
| 16. left wrist     |                            |


Kid's first pitch



HomeRunHero - AI assistant detecting pose



# Login



## Sign In

Email

Password

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# Upload

9:41

←


## Upload a photo of your Posture

Regulations require you to upload a photo of your posture. Don't worry, your data will stay safe and private.



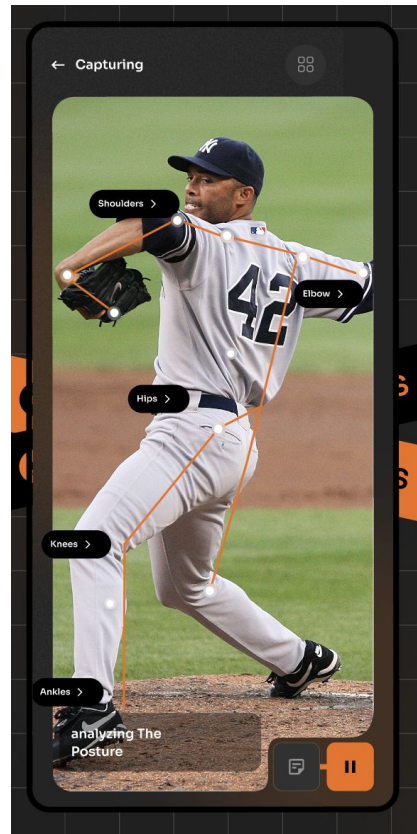
Select file

or

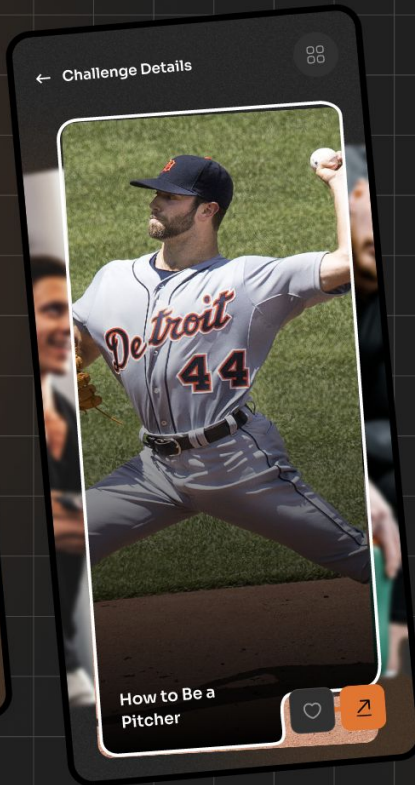
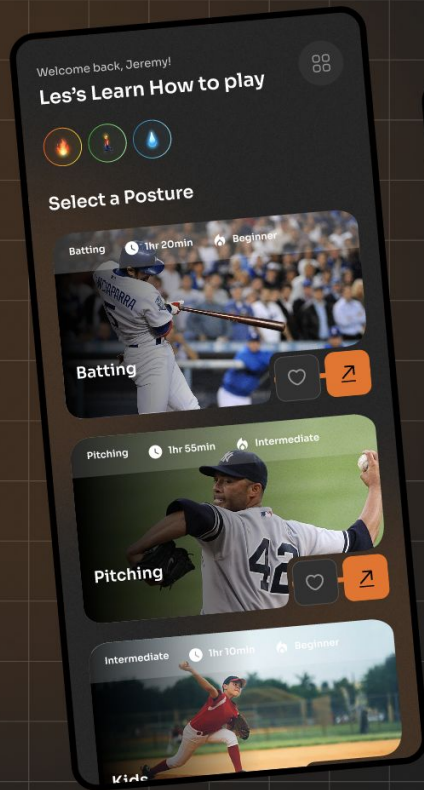
 Open Camera & Take Photo

[Continue](#)

# Capturing









# Learn and Practice Baseball Anywhere

ANY QUERIES? VISIT US ON: [HTTPS://GITHUB.COM/SHE11FISH/BASEBALL-HACK-DAY-2023](https://github.com/she11fish/baseball-hack-day-2023)

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