* Pitch of why your robot application is cool
* What is your favorite / most interesting component?
* Video demonstration of what you’ve achieved

Pitch:

*In 1992, what many consider to be the finest basketball lineup of all time was assembled for the Barcelona Summer Olympics. This team featured some of the most iconic players of all time including Jordan, Pippen, Bird, Ewing, Stockton, Barkely, & Magic and hence they were nicknamed the Dream Team. If this team was to be brought back to today’s game, while in all senses they would still be great, they would be missing a key component. In modern play, one of the most essential players on the court is someone with the ability to stretch the floor, or in other words, someone that is able to consistently be a threat from behind the three point line. While this team had all time shooters, none are top 100 on the career leaders for 3 pointers made.*

**So again, as mentioned, our goal was to add another player to this roster to make it more complete and replace notable NBA legend Christian Laettner on the roster with a sharpshooter. In the pursuit of perfection, we wanted to design a player that has never been seen before. What we wanted was a mean, cold blooded, automatic, undeniably WET 3 point specialist. The only logical solution to 3 point perfection was to develop a robot. While there is already one robot in today’s NBA (show pic of Kawhi), we believe that our friend, the Splash Brother 3.0, can be revolutionary.**

The most interesting component of our robot if it’s use of inverse kinematics to predict the location of the ball’s end point. We were able to accomplish this by analytically solving for the necessary joint angles to get our end effector suction piece into the proper position. With the assumption that we would keep the velocity constant (by using the same throwing motion each time) and with knowledge of the basket’s distance picked up from the sensors, the analytical derivation looks like the following. (Explain math for 20 seconds). This is by far our favorite component of our robot as it allows us to shoot at a basket any distance away from our initial position. It also allowed fantastic consistency… so much so that we decided to pit the robot against a human being in a 3 point shooting challenge.