**Idea**: Use uniquely identifiable colors to detect players from each team (gold for SF, red for KC)

**Algorithm**:

1. Convert the image from BGR to LAB to take into account the luminance of the image
2. Pre-define the LAB color for gold and red
3. Compute the distance between each pixel and the gold/red value
4. Use thresholding to keep only pixels within an arbitrary distance from the desired color and convert the image into binary
5. Use OpenCV’s blob detection methods to detect potential player regions
6. Keep only regions larger than an arbitrary size

**How to identify WR from all players:**

1. Identify which side is on offense
   1. Offensive formation is usually narrower horizontally, i.e. players are closer together
   2. For each team, compute the distance between x coordinates of the leftmost and rightmost bounding boxes, and the team with the smaller distance will be the offensive team
2. Identify wide receivers from all players
   1. For all bounding boxes of the offensive team, find the ones closest to the horizontal edges of the image, i.e. largest and smallest y coordinates
   2. These will be designated as wide receivers

**Limitations**

1. Color matching is very sensitive to any background noises, e.g. NFL logo, endzone, superbowl logo, etc.
2. We can only match specific parts of a player, instead of the entire player itself. Depending on the angle and body position of the players, some color features will not be detectable. For example, if the player’s jersey is blocked by his arm or another players, the color matching algorithm will no longer be able to detect the jersey.

