I use a traditional U-net with half kernels to train and predict based on keras-tensorflow.

U-net structure:

Steps:
1. Fill origin label images and make labels look like solid ellipses
2. Resize all images from (800,540) to (160,112)
3. Use the U-net to train and predict
4. Resize the prediction images from (160,112) to (800,540)
5. Use functions from opencv to predict Minimum external rectangle
6. Calculate the x, y, a, b and angle