

Motion Prediction of a Ping Pong Ball

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Problems Overview

- Data and Condition
- Finding the Ping Pong table
- Finding the Ping Pong
- Calculating the current position of the ball
- Calculate the future position of the ball



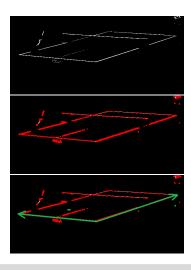
Data and Condition

- Prerecorded videos mostly form tournament.
- Static camera.
- Equal illuminate room.
- Good resolution.
- Few objects with the color of the Table or Ball.
- Side view with now blocking objects.



Finding the Ping Pong table







Finding the Ping Pong Ball

- Use background subtraction to find moving objects.
- Use color thresholding to find the Ball.





Calculating the current position of the Ping Pong ball in relation to the Ping Pong Table

- Use table corners to calculate relative position of the camera.
- Calculate the relaive position of the ball in the szene.



Calculate the future position of the ball

- Use two frames and the blure to calculate the moving direction of the ball.
- Calculate the speed of the ball thorugh position change between frames.
- Use speed and direction to calculate future position of the ball.









Questions?

Thank you for your attention