CHESS BOARD RECOGNITION

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Objective : Detect a chessboard and identify pieces on it using image processing techniques.

Motivation : To build an AI which predicts the best move at any intermediate stage of a chess game.

PROCEDURE

- Chess board segmentation using Otsu's method + Canny's edge detector + Hough transform.
- Extract each square and detect a chess piece using SIFT detector.
- Each detected piece is compared with the pre - defined training set and area score is calculated.
- The one resulting in the lowest score is the best matching piece.

FUTURE WORK

- SIFT fails to match the pieces exactly because most of the pieces have similar keypoints. Better mechanism to compare shapes is needed.
- This algorithm does not work for different orientations of input image.
- Intelligence can be added to predict the next move of a player.

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