

Computer Vision and Artificial Intelligence Based Puzzle Solver

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Abstract: *This document gives formatting instructions for authors preparing papers for publication in the International Journal. The authors must follow the instructions given in the document for the papers to be published. You can use this document as both an instruction set and as a template into which you can type you're In the last decade or so, solving the Sudoku puzzle has become everyone's passion or you can say hobby. The simplicity of the puzzle's structure and the low requirement of mathematical skills caused people to possess enormous interest in accepting challenges to unravel the puzzle. Therefore, developers have tried to hunt out algorithms so on get the variability of puzzles for human players so as that they could be even solved by programming. AI-based real-time Computer Vision and puzzle solver using webcam allows providing the pc system with the Sudoku puzzle in real-time and provides the optimum solution thereto. The system not only involves the use of AI but also makes use of Computer vision, thus combining the 2 major concepts. During this system the pc tries to analyse the environment by capturing the multiple-image bursts from the important time, and from those images, it might detect the Sudoku grid lines. For the detection of the grid, the use of the Hough Transform technique has been made. Then the numbers are detected using OCR technology i.e. Optical Character Recognition. The system gets the whole knowledge of the puzzle and then computes the last word solution by making the use of AI-based strategies for getting the optimal solution in efficient manner to the Sudoku Puzzle Problem.*

Keywords: Puzzle Solver, Artificial Intelligence, OCR, Grid Detection, Sudoku Algorithm, Brute force neck single Algorithm

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