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Terraria AI: YOLO Interface for Decision-Making Algorithms

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Abstract : This paper presents a method to enable agents for the Terraria game to evaluate algorithms commonly used in general video game artificial intelligence competitions. The usage of the 'You Only Look Once' model in the first layer of the process obtains information from the screen, translating this information into a video game description language known as "Video Game Description Language"; the agents take that as input to make decisions. For this, the state-of-the-art algorithms were tested and compared; Monte Carlo Tree Search and Rolling Horizon Evolutionary; in this case, Rolling Horizon Evolutionary shows a better performance. This approach's main advantage is that a VGDL beforehand is unnecessary. It will be built on the fly and opens the road for using more games as a framework for AI.

Keywords : AI, MCTS, RHEA, Terraria, VGDL, YOLOv5
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