

Research on hybrid deep reinforcement learning model and application of building AI Agent for Flappy Bird game

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Abstract: This thesis studies deep reinforcement learning algorithms and their applicability in training intelligent agents. The author focuses on the hybrid Double DQN (D3QN) architecture combined with a Dueling Network and Prioritized Experience Replay mechanism to optimize the learning process and minimize action bias. The model is experimentally tested in the Flappy Bird game environment to evaluate its stability and adaptability under changing environmental conditions. The research results provide an important foundation for developing AI agents capable of effectively learning from raw data (screen images).

Keywords: Deep Reinforcement Learning, Double DQN, AI Agent

References

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