From Velocity Comes Value

Deep Reinforcement Learning

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What Is Deep Reinforcement Learning?

Deep Reinforcement Learning (DRL) is a subfield of Machine Learning (ML) where intelligent agents can learn from past decisions and use that as a basis for future decision-making. While deep reinforcement learning is relatively new, both Reinforcement Learning (RL) and Deep Learning (DL) can be traced back to the 1940s and 1950s when researchers started to explore learning through trial and error by giving feedback in the form of rewards or punishments.

It wasn't until the 1980s that the concept of reinforcement learning became a potential reality. Early algorithms were relatively simple and were limited in their ability to learn complex behaviors.

If you remember the movie War Games, reinforcement learning taught the WOPR supercomputer to run through all possible scenarios for nuclear war based on algorithms that use rewards and punishments for machine learning. In the end, WOPR, having learned from past decisions and the consequences of those decisions, decides that all moves lead to global annihilation and concludes that "The only winning move is not to play." While a bit out of the realm of reality, the movie does make a great analogy.