1. The article is headlined “Human-level control through deep reinforcement learning”

2. The article is written by Google DeepMind company. It was published in the journal “Nature” in 2015.

3. The main idea of the article is to present an artificial agent, termed a deep Q-network, that can learn policies from high-dimensional sensory input using end-to-end reinforcement learning. The authors applied their method to 49 Atari games from the Arcade Learning Environment with no adjustment of the architecture or learning algorithm and compared results with human testers.

4. The authors start by telling that reinforcement learning is similar to the animal training. Usually, we try to maximize cumulative future reward for actions that we done. In reinforcement learning there is Q-function that is able to evaluate these actions of an agent. The article describes Q-learning algorithm that approximates Q-function using deep Q-network and Bellman equation that says that we can make decisions independently in each state of the environment. According to the text the authors test such approach in 49 Atari games and compare results with human testers. The testers have only 2 hours to learn to play in one of the game and then try to beat deep Q-agent using only visual sensory input. Further the authors report that their approach outperforms other existing reinforcement learning algorithms on 43 games and beat the human testers on 29 games. On others games the agent is able to achieve 75% performance of the human score. In conclusion, the authors say that their results can be considered in psychological and neuroscientific perspectives on animal behavior to see how agents can optimize their control.

5. I find the article important because it contains state-of-the-art results for the modern world at all, not for machine learning field only.