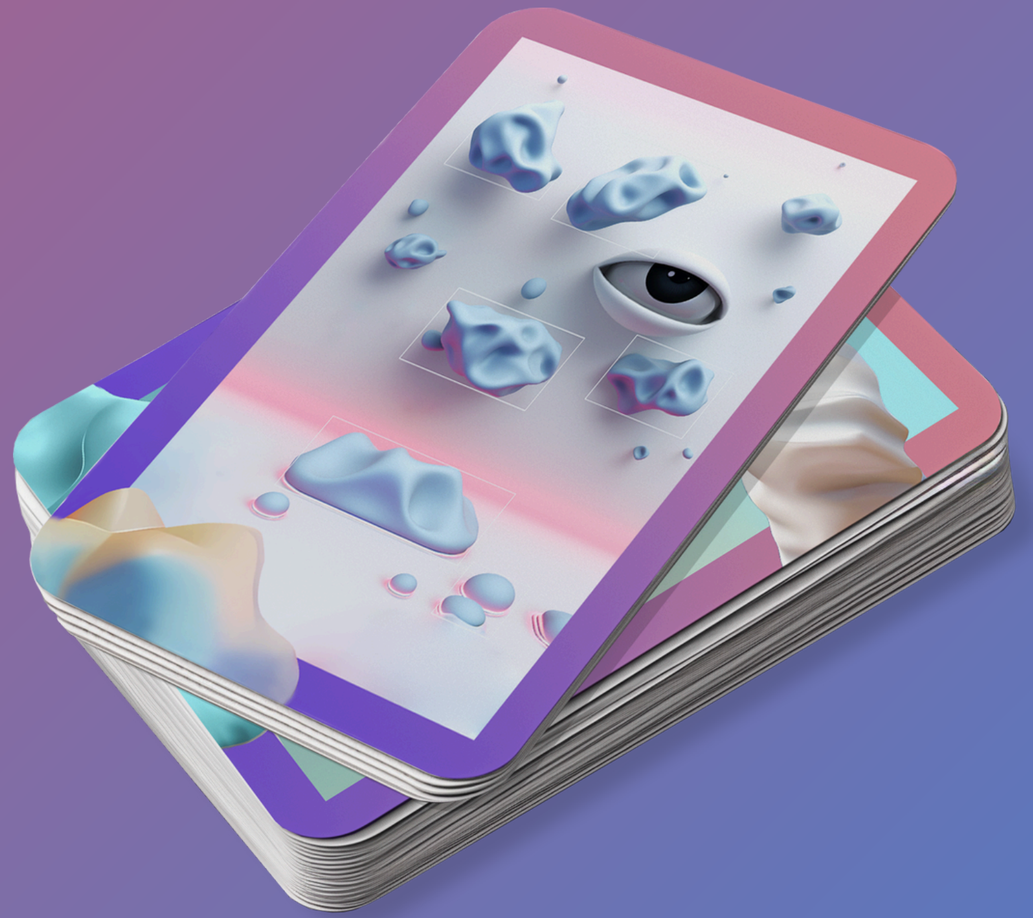
AI Curriculum

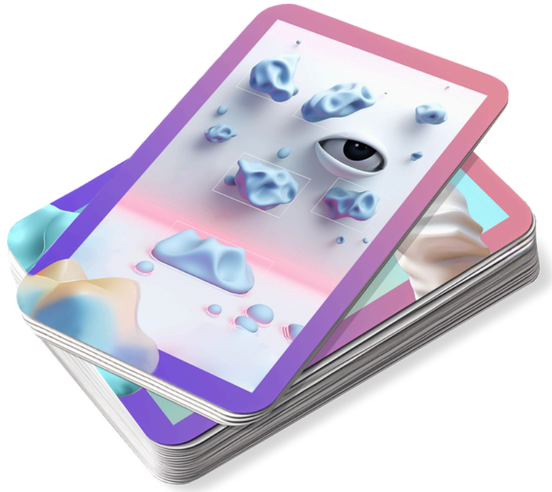
Teaching Material for the AI Curriculum for Elementary and Secondary Schools
Computer Science at Secondary Schools

04

Machine Learning Deck

Reinforcement Learning





Introductory Discussion

People learn from examples and experience.
How do machines learn?

Agents are racing in a 100-meter dash!

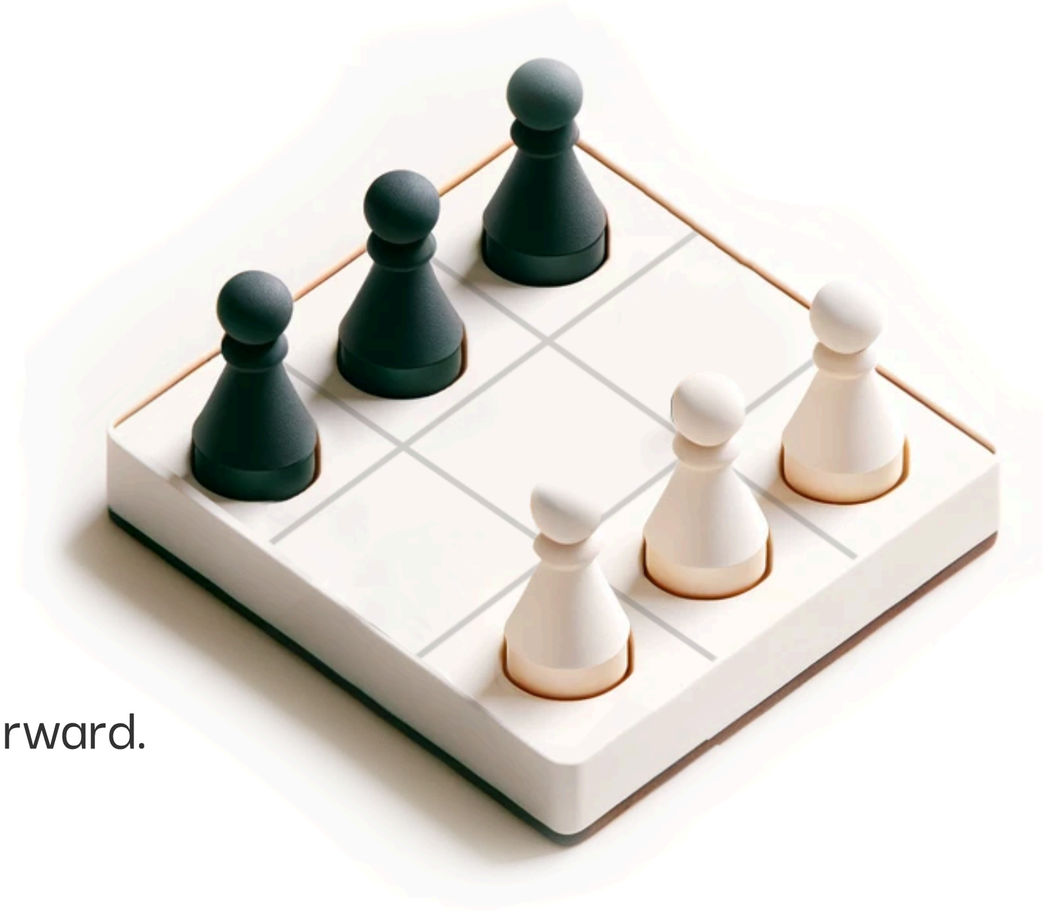
youtube.com/watch?v=pJPdW8WWAso

How to Play Hexapawn

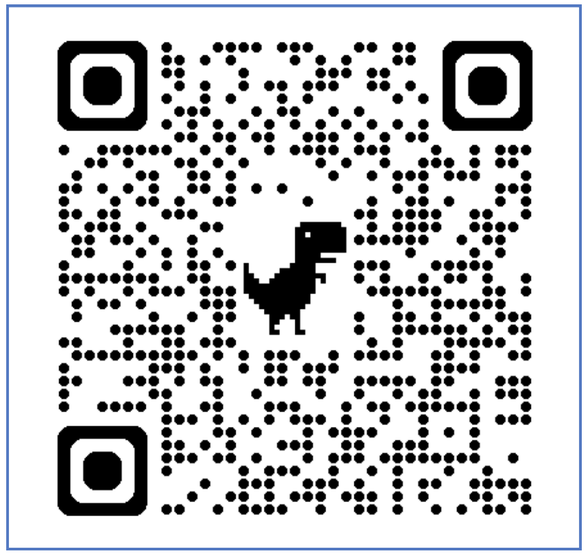
Hexapawn is a simplified version of chess,
played on a 3×3 board.

A player wins by:
Getting a pawn to the opposite side of the board.
Capturing all of the opponent's pawns.
Blocking the opponent from making any legal move.

How pawns move:
They capture an opponent's pawn by moving diagonally forward.
They can move one space forward if that space is empty.
They cannot move backward or sideways.



Teach the program to play Hexapawn!



mrozilla.cz/lab/hexapawn

Reinforcement Learning

Reinforcement learning is a method that helps
a program learn to make the right decisions
through trial and error.

It tries out different strategies and finds out which ones lead to the best results.
You can think of it like a game, where the program earns points for good decisions
and loses points for bad ones. The goal is to collect as many points as possible.
In this way, the program learns how to achieve the best possible outcome.

That’s it – bye for now!

This was everything from the Machine Learning deck!
You can continue with the Ethics deck. 😘