Reinforcement learning to solve Agar.io

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Abstract

Agar.io is a blob-eat-blob 2D world where the player controls a circular blob whose primary objective is to accumulate the largest amount of matter. This objective boils down to the amount of food it retains, supply of which consists of both static randomly dropped food and other real-time players. The available high-level decisions and actions for the blob include eating static food, actively avoiding bigger blobs, actively pursuing them. In addition, the blob has the additional possible action of splitting its mass to preject half of itself with a higher velocity in the intended direction.