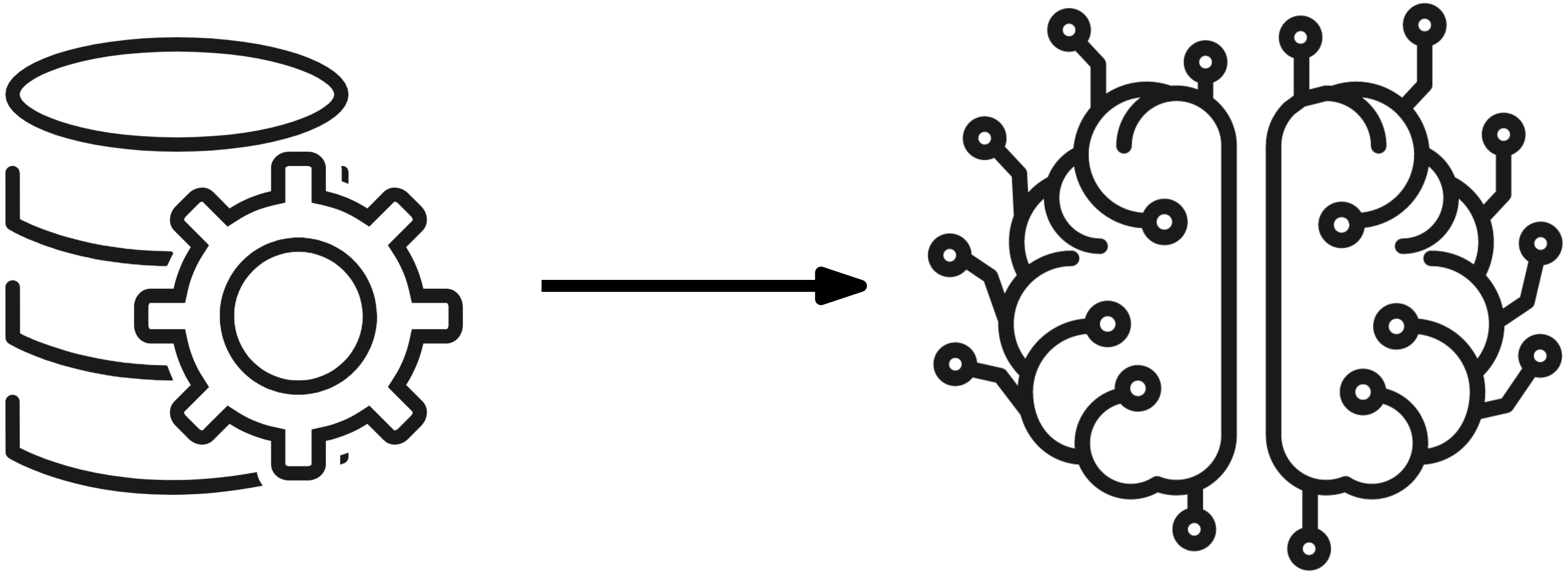
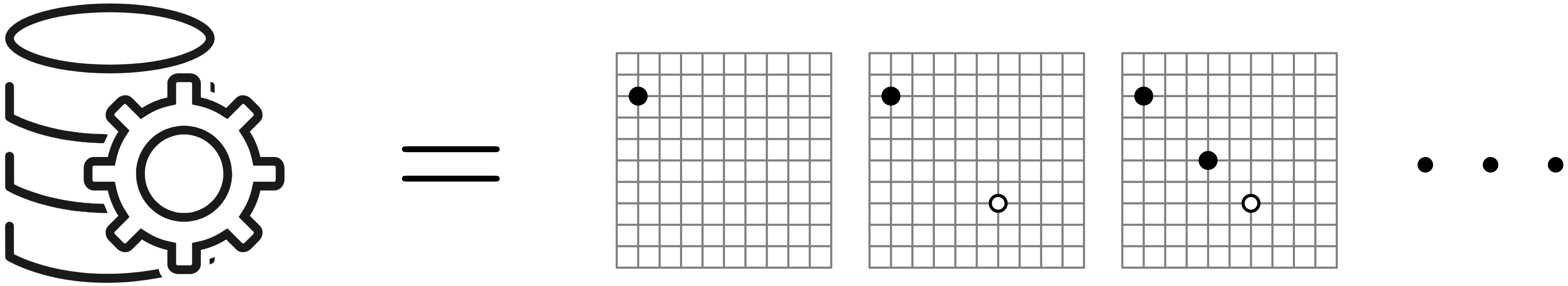
Learning from Data

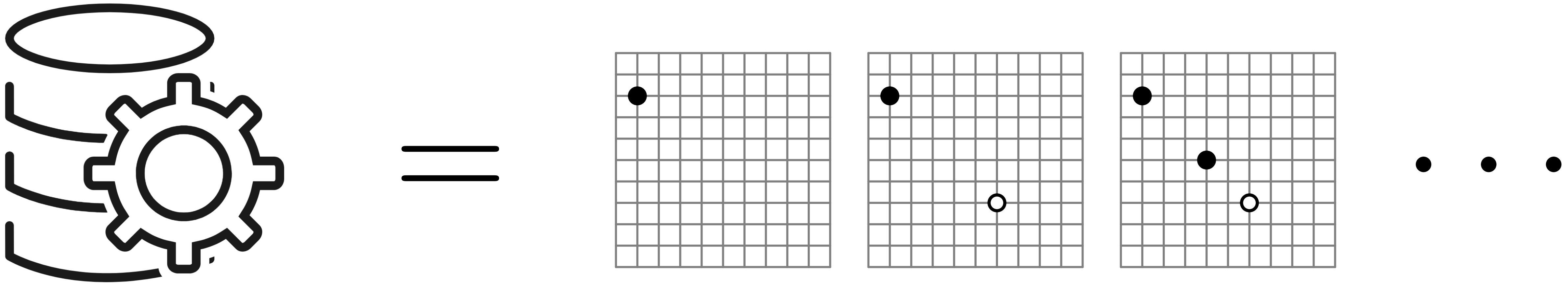


Supervised Learning

data
label

data → label





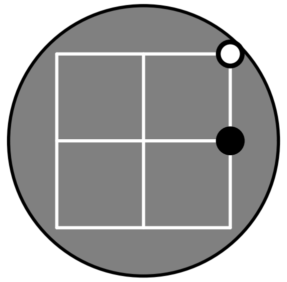
data = board state

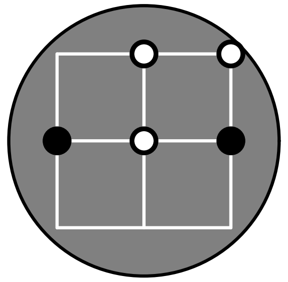
label = next move

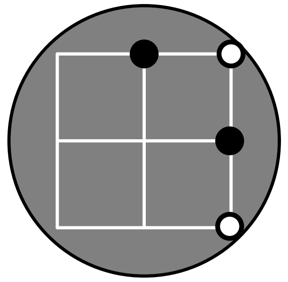
label = winner

Assignment 1

1 In Neural Networks, the input and the output is a vector.
Express the following data as a vector.


Tie


white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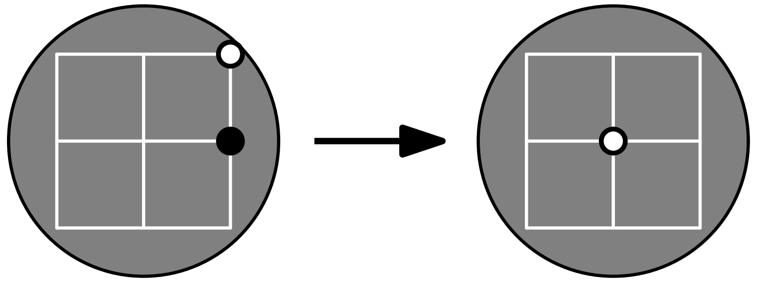


2 There are different ways to do this.
Describe at least two different possibilities.

3 How can you use the trained network?
(simplest ideas)

Post on

Teams

Problem 1

garbage in $- >$ garbage out

Problem 1
garbage in − > garbage out

🕵️‍♀️🎲 vs 🕵️‍♀️🎲

Problem 1

garbage in $->$ garbage out

👩‍💼🎲 vs 👩‍💼🎲

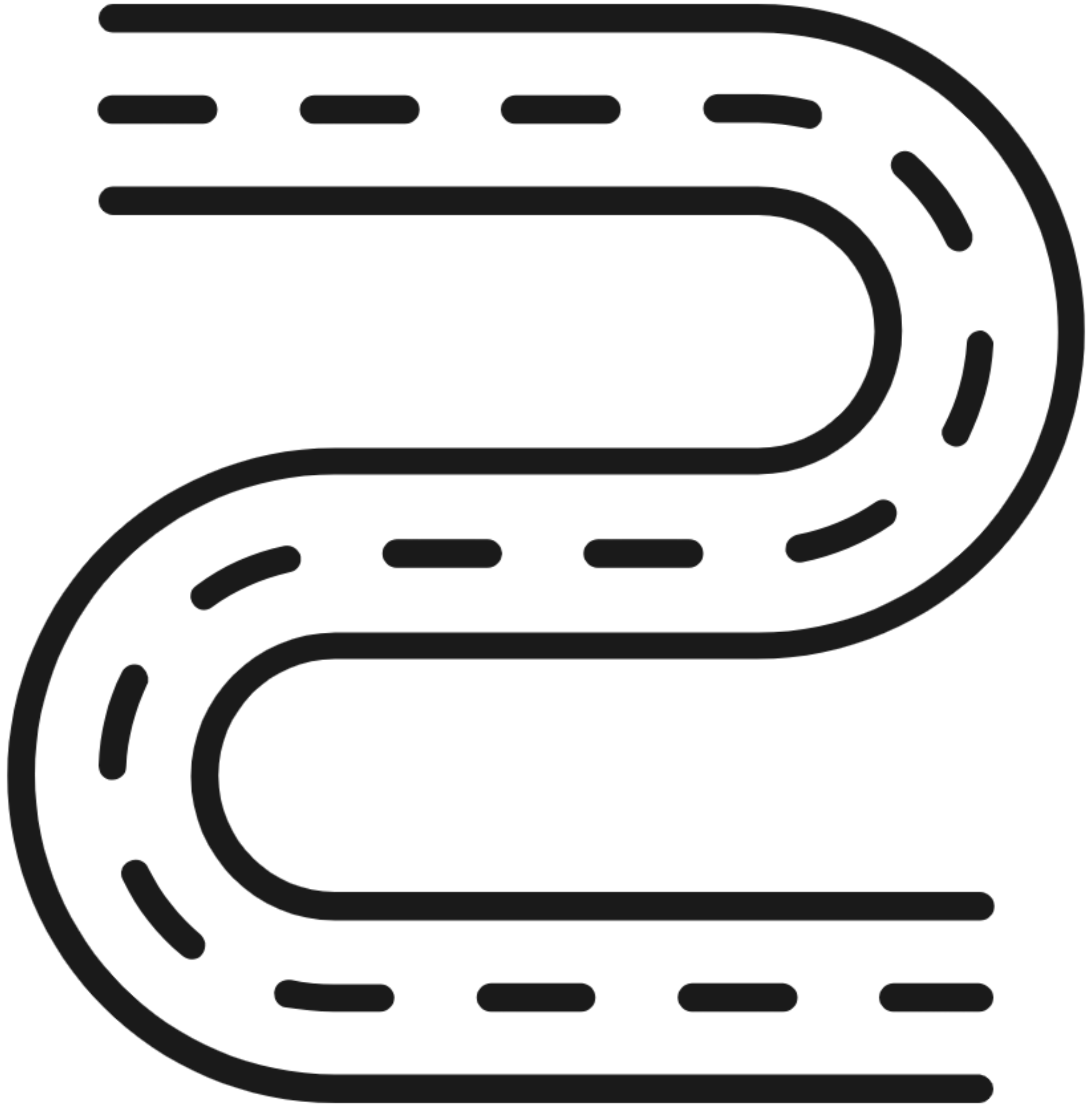
? copy bad behavior ?

Problem 2

unseen states

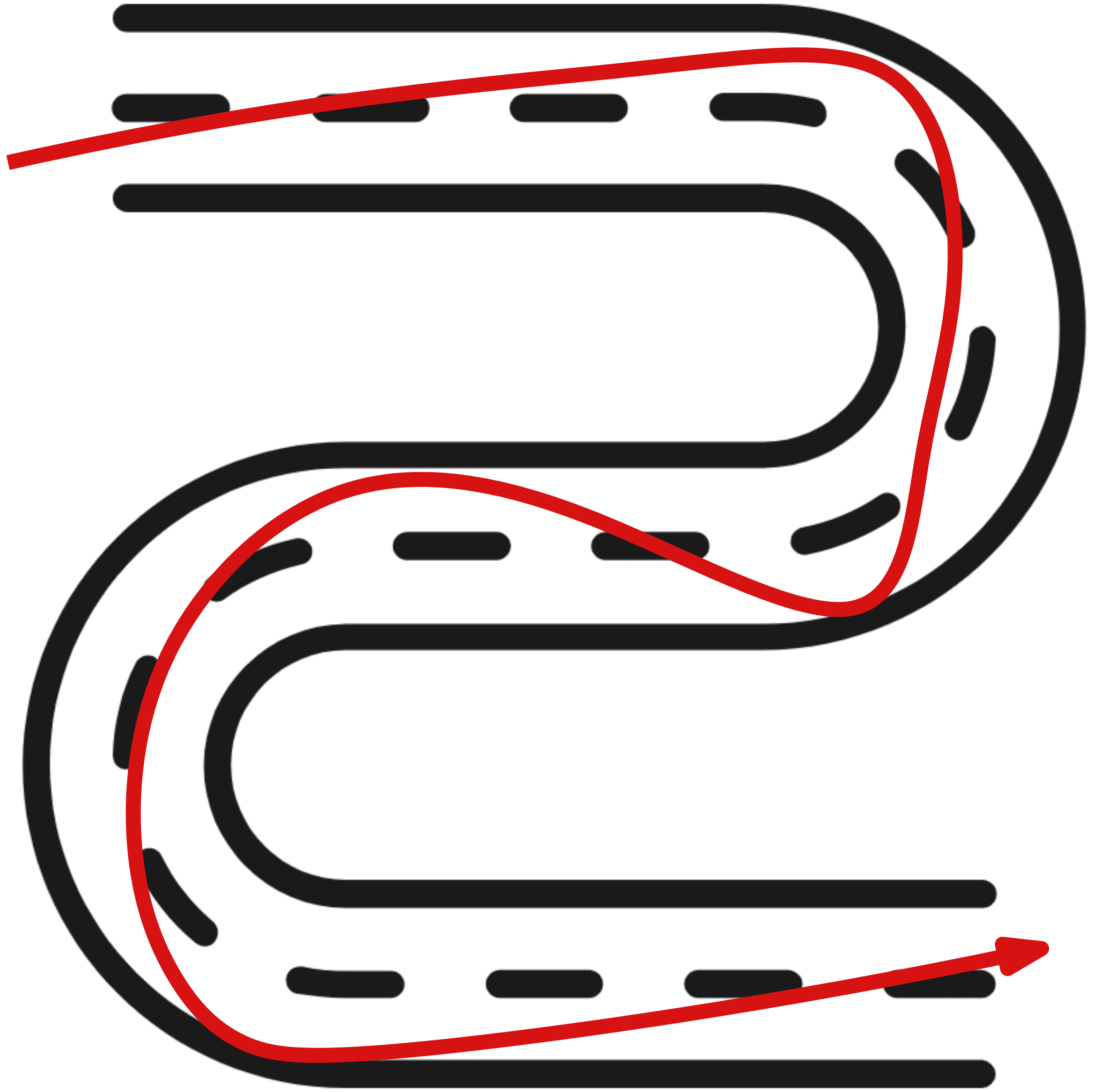
Problem 2

unseen states



Problem 2

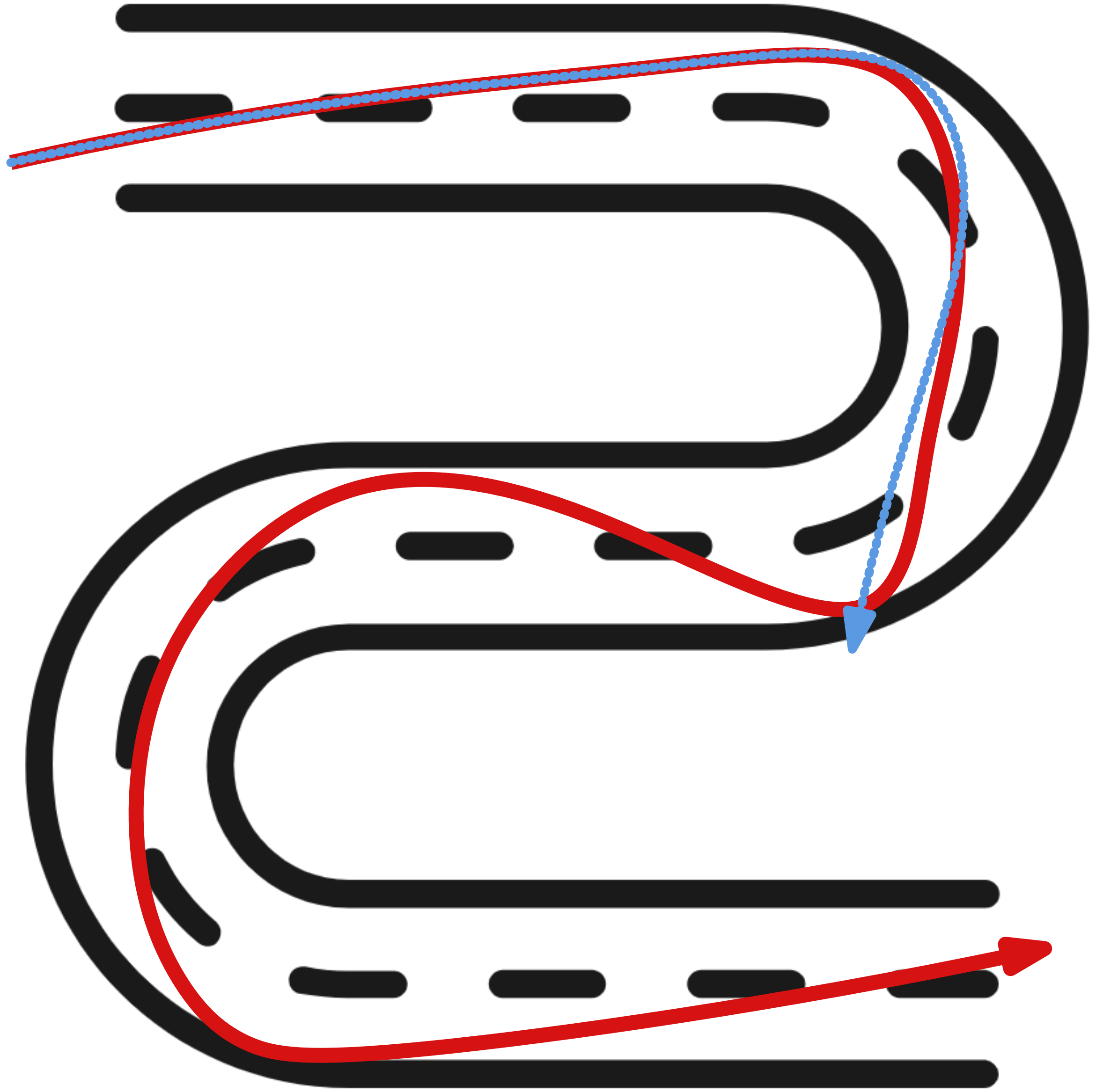
unseen states



ideal route

Problem 2

unseen states

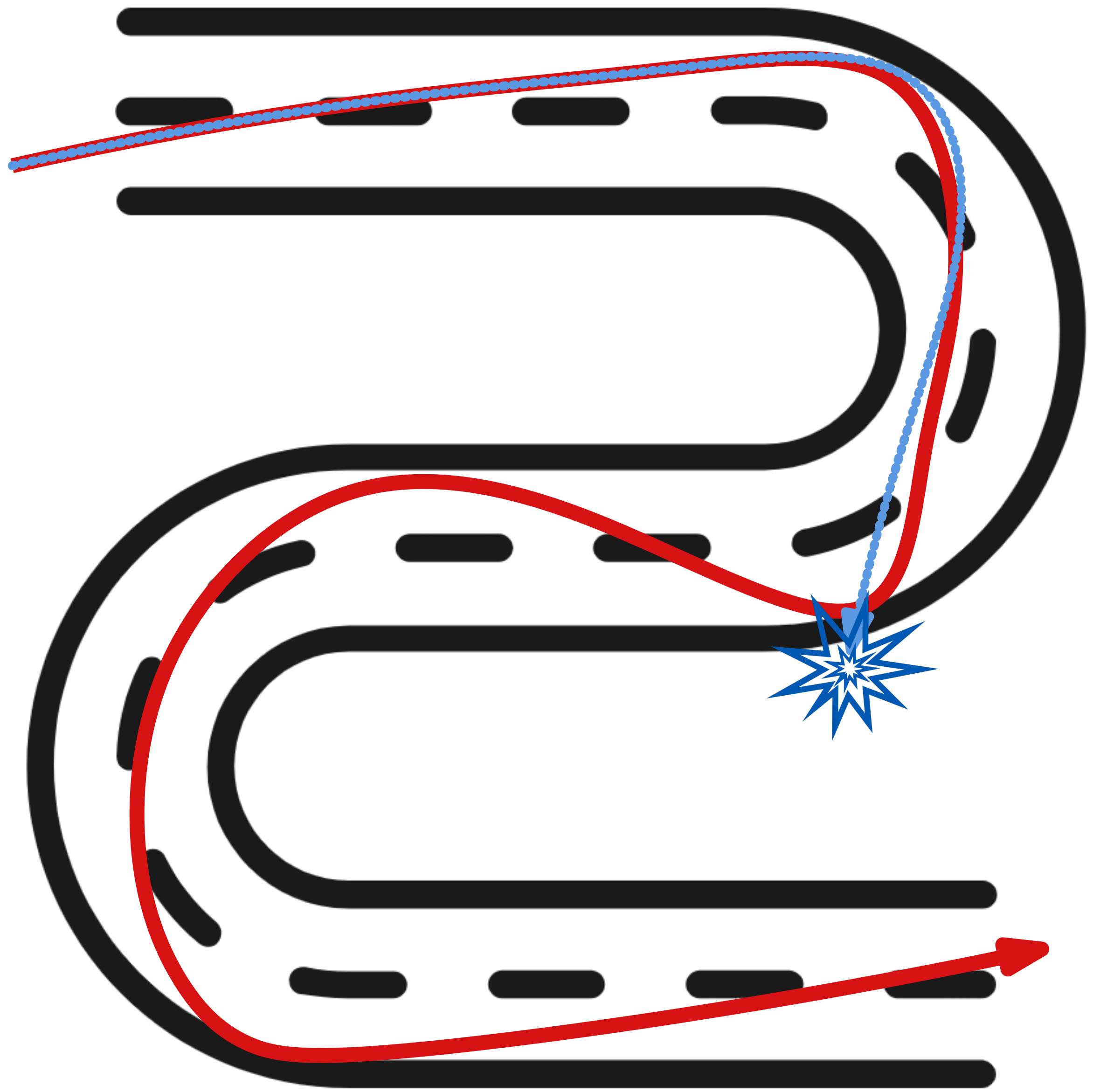


ideal route

network

Problem 2

unseen states



ideal route

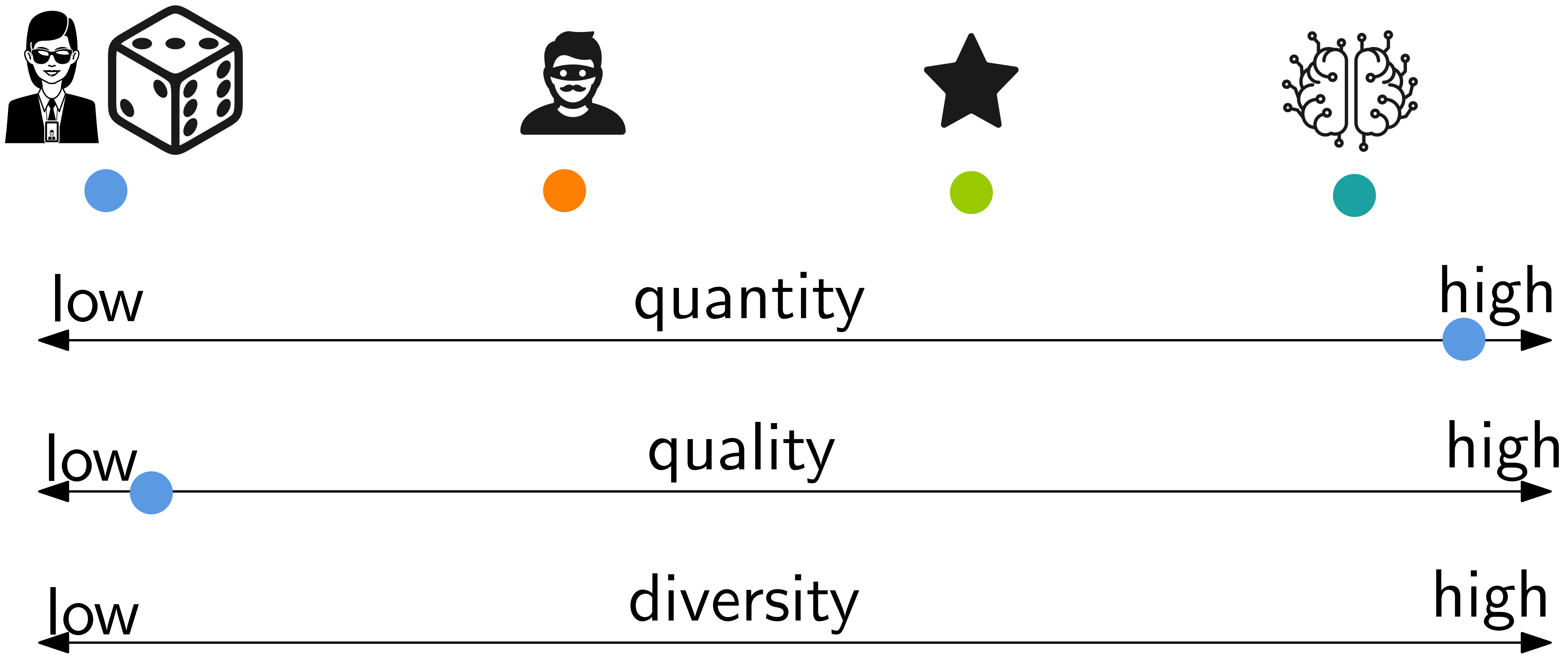
network

quantity

quality

diversity

Assignment 2



low quantity high

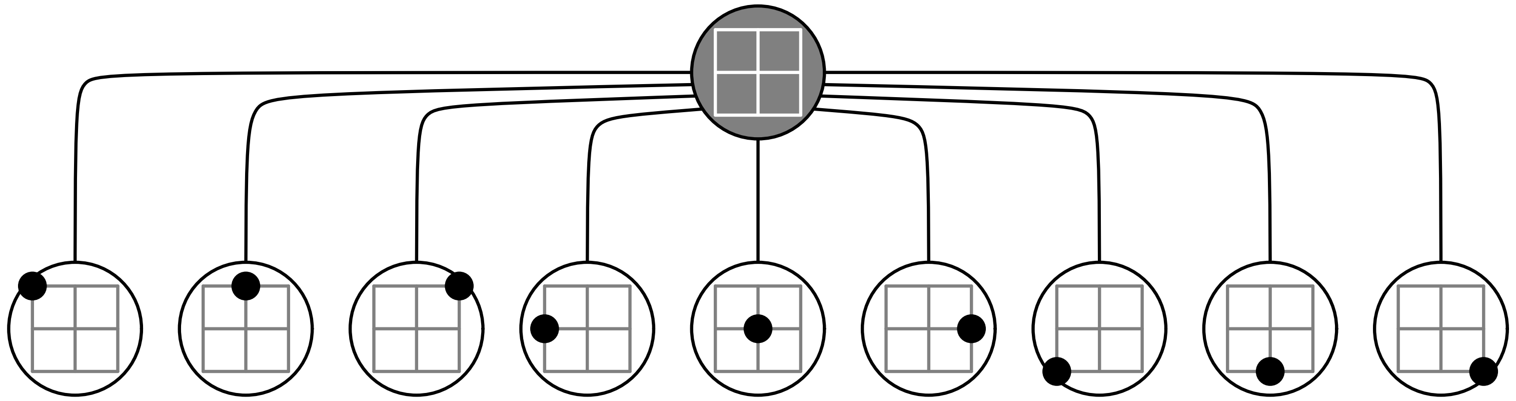
low quality high

low diversity high

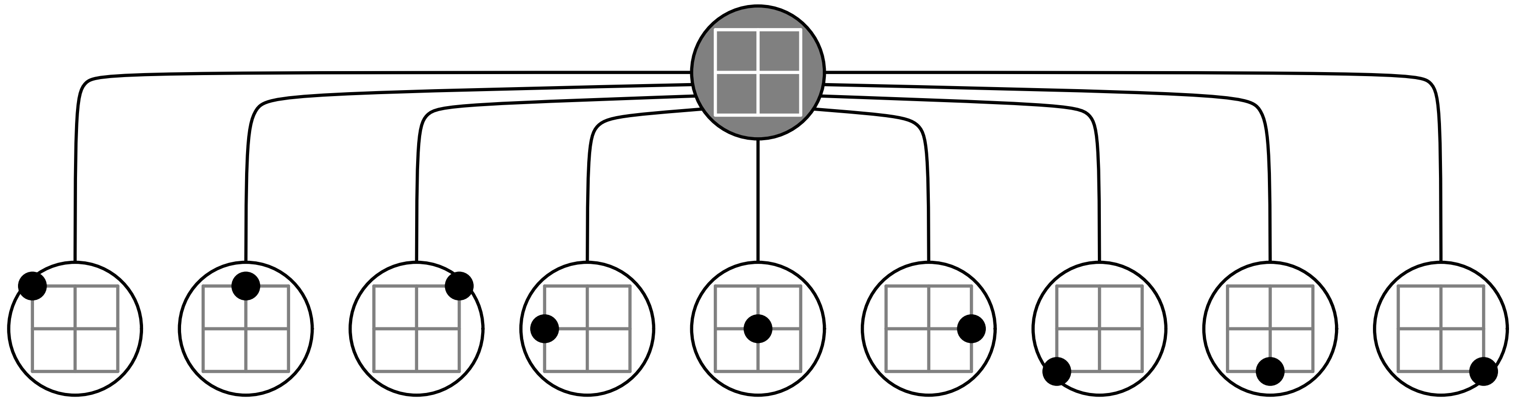
Post on Teams

Describe a scenario where it makes no sense to train a value-function out from the given data.

Reduce Branching

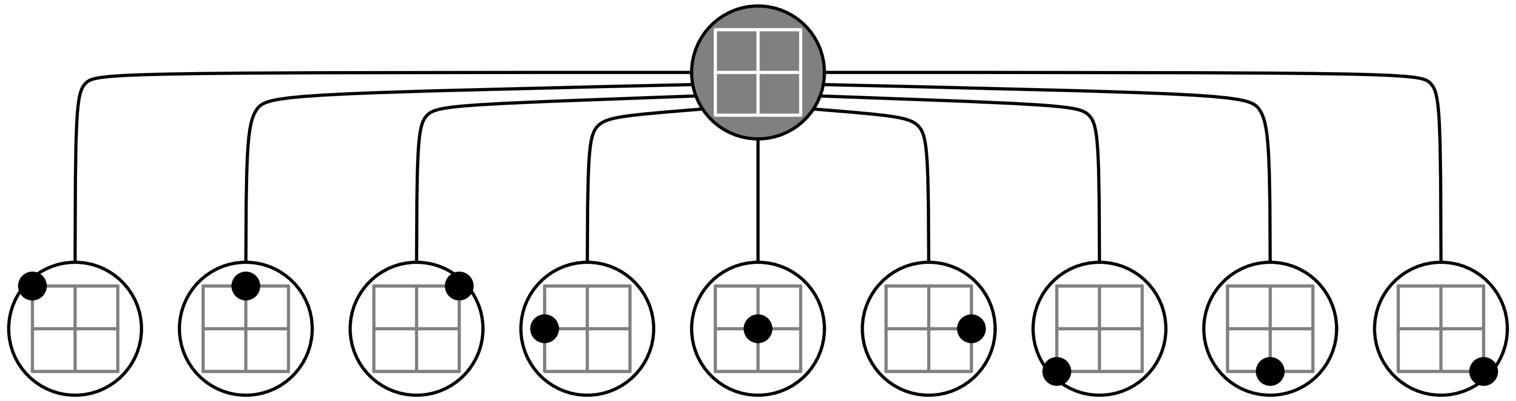


Reduce Branching



$5\%\ 1\%\ \ldots$

Reduce Branching



5% 1% . . .

- according to probability
- only top 3 choices
- new upper confidence bound formula
  balance: score function + probability + confidence