

# Coachello Demo Script

## A quick demo of Machine Coaching

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### Abstract

In this quick walk-through we demonstrate a script for a quick demo of Machine Coaching through the Coachello GUI. All mentioned saved games might be found in `../games` directory.

## 1 Script

We present the script into three parts, one per each reviewed game.

### 1.1 First Round: Play on the Sides

1. Open the online GUI, available at: <https://vmarkos.github.io/coachello/>.
2. Press the “Audit” button and load the game found in: [hp\\_47\\_17\\_1679552346213.json](#).
3. Press the white dot (intermediate state) on the third row, right before white’s move C5.
4. At this point, we would like the agent to have played to the available side cell at A4, so the next step is to press the “Offer advice” button.
5. Offer the advice shown in Figure 1, by double-clicking on D8 and making a single click on the cell below it.
6. Click the “Done” button on the bottom right of the screen to return to the game screen.
7. Press the white download button to (demonstrate how to) download the coached policy, as shown in Figure 2.

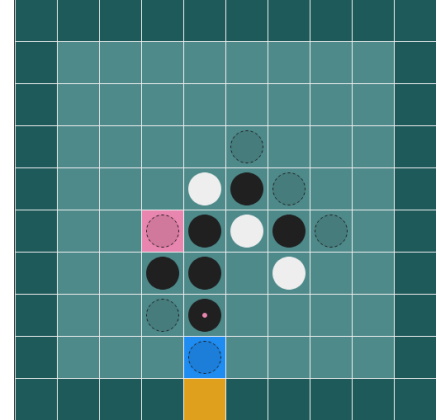
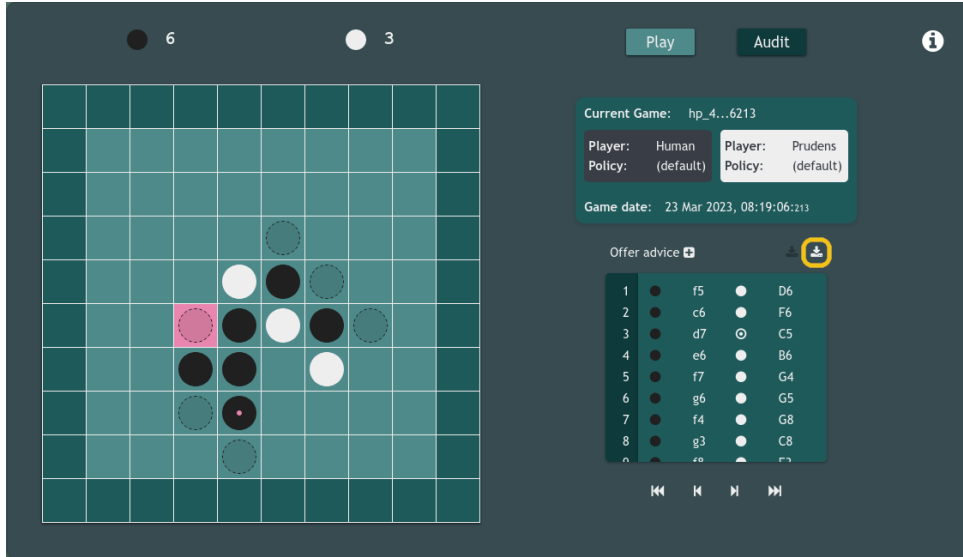


Figure 1: The first piece of advice.

### 1.2 Second Round: Don’t Play Next to Corners

1. Load the following game in audit mode: [hp\\_50\\_14\\_1679553207662.json](#).
2. At first, go to the intermediate state before H5 (5<sup>th</sup> row, white dot) to showcase how the agent, when it has more than two suggested moves to play, chooses at random — see Figure 3a.
3. Go to the intermediate state before white’s move H7 (6<sup>th</sup> row, white dot) — Figure 3b.
4. There you shall now see that there is a blue border around the played move. Hover over that cell to show the explanation’s body, which corresponds to (a rotated version of) the advice we provided before<sup>1</sup>.

<sup>1</sup>Depending on the audience and time available, one could present other white moves to some side of the board such as G8 (line 16) which is also a corner move.

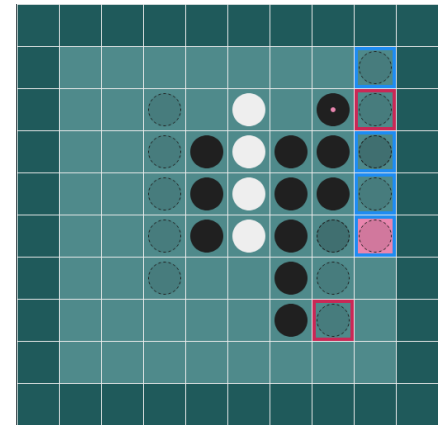


**Figure 2:** Downloading the first version of our coached policy (by pressing the button marked by a yellow rounded rectangle).

5. At this point, we would like to offer some advice regarding avoiding to play next to corners. To do so, press again the “Offer advice” button and provide the piece of advice shown on Figure 3c. After providing the first piece of advice, press the “Advise” button and not the “Done” button, since we want to provide a second pattern<sup>2</sup>.
6. Then, provide the second piece of advice, as shown in Figure 3d.
7. Once done, press the “Done” button and download again the coached policy<sup>3</sup>.

### 1.3 Third Round: Showcasing Overall Behavior

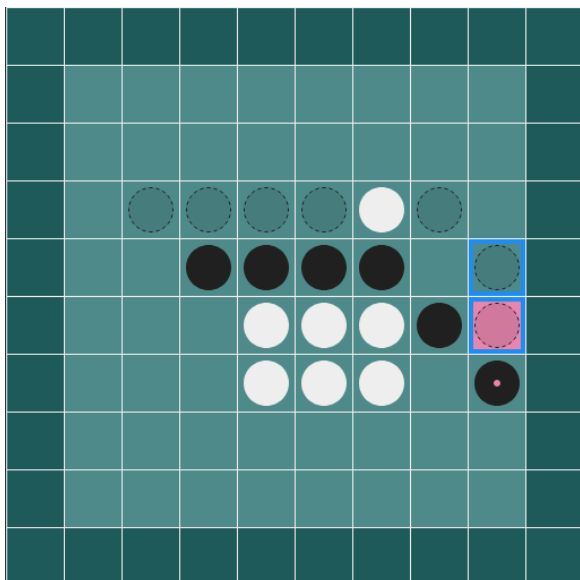
1. Load the following game in audit mode: [hp\\_10\\_54\\_1679554654733.json](#).
2. Move to the intermediate state (white dot) before whites move to F<sub>4</sub> (2<sup>nd</sup> row). There, we can observe how the machine avoid to play to G<sub>7</sub> (you can hover over G<sub>7</sub> to see the explanation).
3. Then, click on the intermediate state before the white’s move to H<sub>5</sub> (6<sup>th</sup> row, white dot). There we can observe how the machine avoids to play at several “bad” positions while it chooses at random among the suggested ones — see Figure 4.
4. Then, you may also click on the intermediate state before white’s move to B<sub>2</sub> (26<sup>th</sup> row) to demonstrate a case where all remaining moves are not suggested. In that case, as discussed, the machine plays at random.



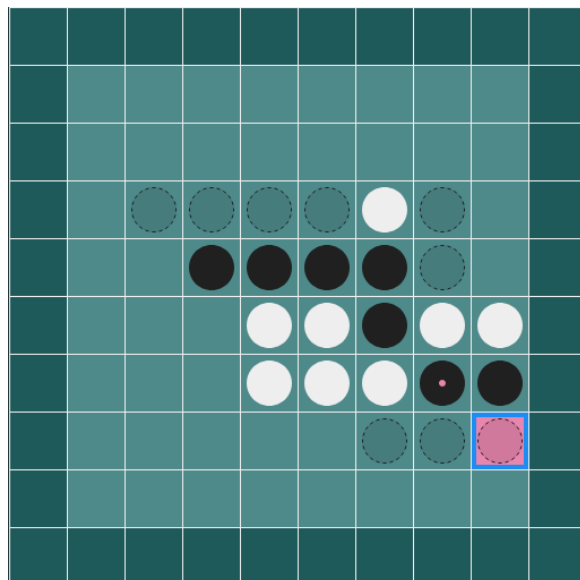
**Figure 4:** Choosing at random among any “good” moves while avoiding “bad” ones.

<sup>2</sup>At this point we could probably make a point about how using the auxiliary border cells corresponds, essentially, to using Cartesian coordinates over the board.

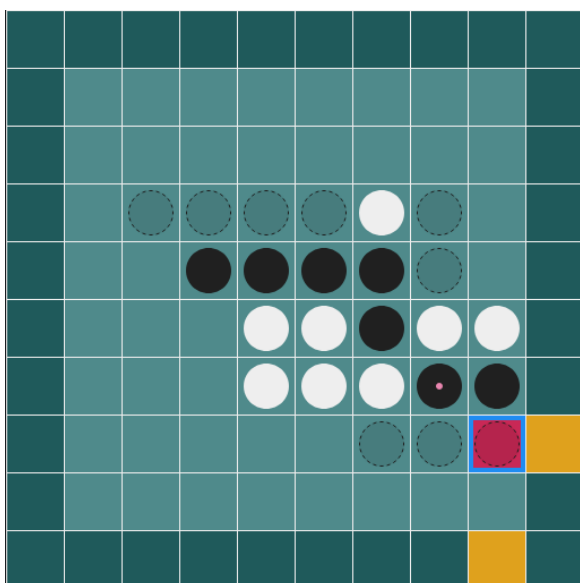
<sup>3</sup>As with the first game, we are downloading each coached policy just to showcase the corresponding functionality. In practice, each version of the coached policy is embedded into each save game file.



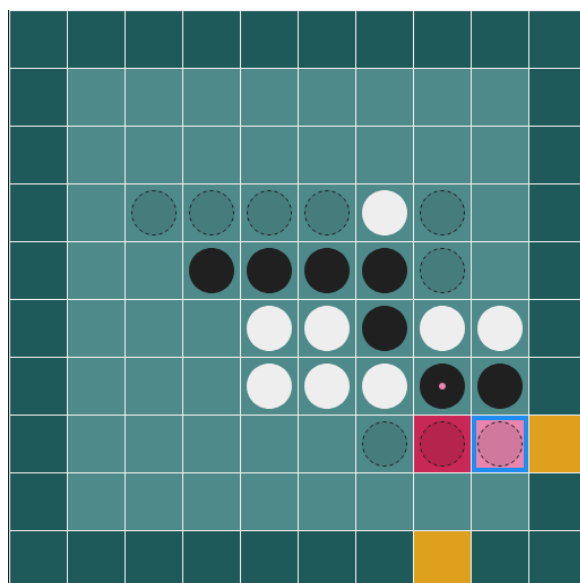
(a) When having to choose between more than two “good” moves, the machine chooses at random among them.



(b) The machine plays according to our previous advice, but, now, we would like to avoid playing to that side cell.



(c) Instructing Prudens not to play next to corner cells (sides).



(d) Instructing Prudens not to play next to corner cells (diagonals).

**Figure 3:** The next two pieces of advice that intend to prohibit the machine from playing next to corners.