

Title here

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Date

## 1 Description

## 2 User Manual

Our approximation of aixi is written in C++ and requires g++ for compilation.

### 2.1 Setup

Extract:

```
tar -zxvf aixi.tgz
```

Compile:

```
cd aixi  
make
```

Run:

```
./aixi environment.conf
```

### 2.2 Configuration Options

Each configuration file specifies a particular environment and a set of options.

Available environments are:

- `biased_rock_paper_scissor`
- `coinflip`
- `kuhn_poker`
- `pacman`
- `tiger`

Other options specify parameters for the environment and the aixi agent's learning. TODO: so far I've only included options not explained in the assignment specification.

Domain	CTW depth	$m$	$\epsilon$	$\gamma$	$\rho$ UCT Simulations
Biased Rock-Paper-Scissor					
Coinflip					
Kuhn-Poker					
Pacman					
Tiger					

Figure 1: Agent configurations

- mc-timelimit: The number of MC simulations per cycle.
- load-ct: Specifies a (trained) CTW for the agent to load at initialisation.
- write-ct: Write CTW to file before agent termination.

## 3 Experimental Results

### 3.1 Experimental Setup

TODO:

- List configurations used for each environment.
- List hardware (cpu/clock speed/cache/ram)

### 3.2 Discussion

How well did it do.

Include results to do with forgetting past model - changing environments

Include statistics about cycles required for optimal performance, time per cycle as in the VNHS paper [1].

TODO: Anyone have a bibtex library already? If no one does, it may be easier to just do references manually.

## References

- [1] J. Veness et al. Reinforcement learning via AIXI approximation Technical report, Australian National University, 2009.