
Machine Learning Arena

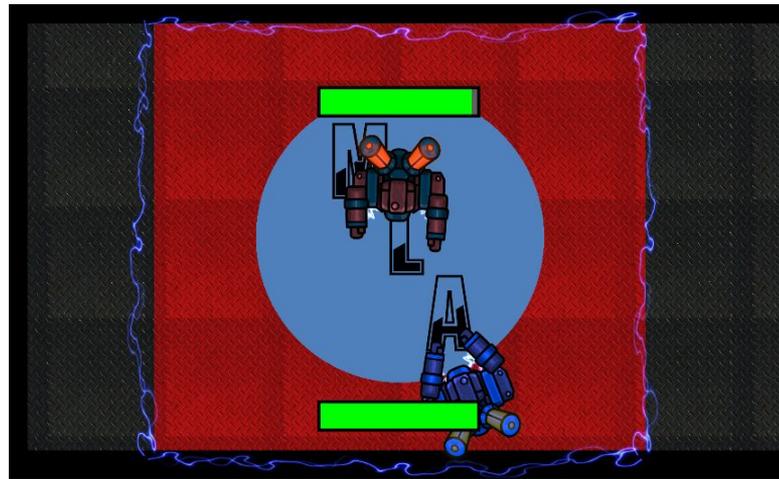
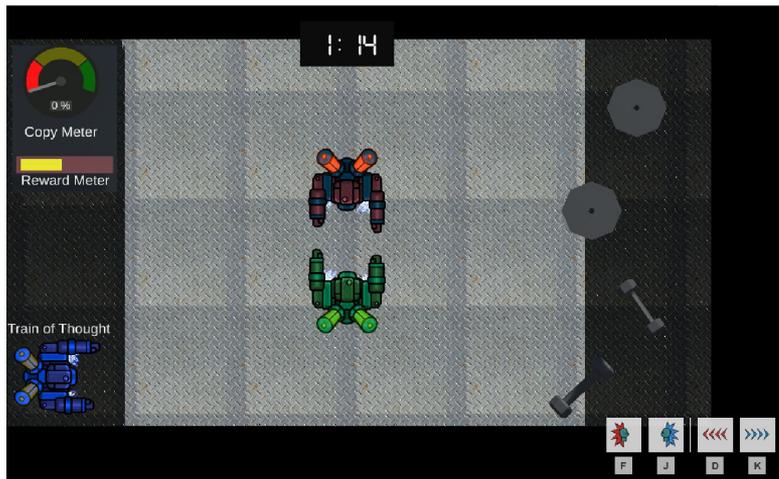
— Jordan Cattelona - Grant Ferguson -
Justin Kreiselman - Kyle Corry —

High Concept

Train roboxer to win the robot boxing championship.



Screenshots



Demo

Machine Learning

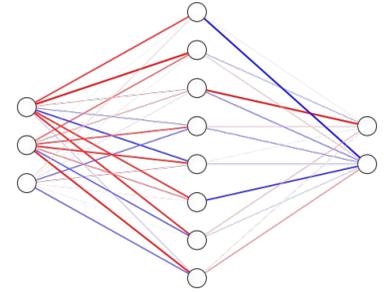
Supervised Learning



Reinforcement Learning

+1

Neural Networks



ML Agents

Brain



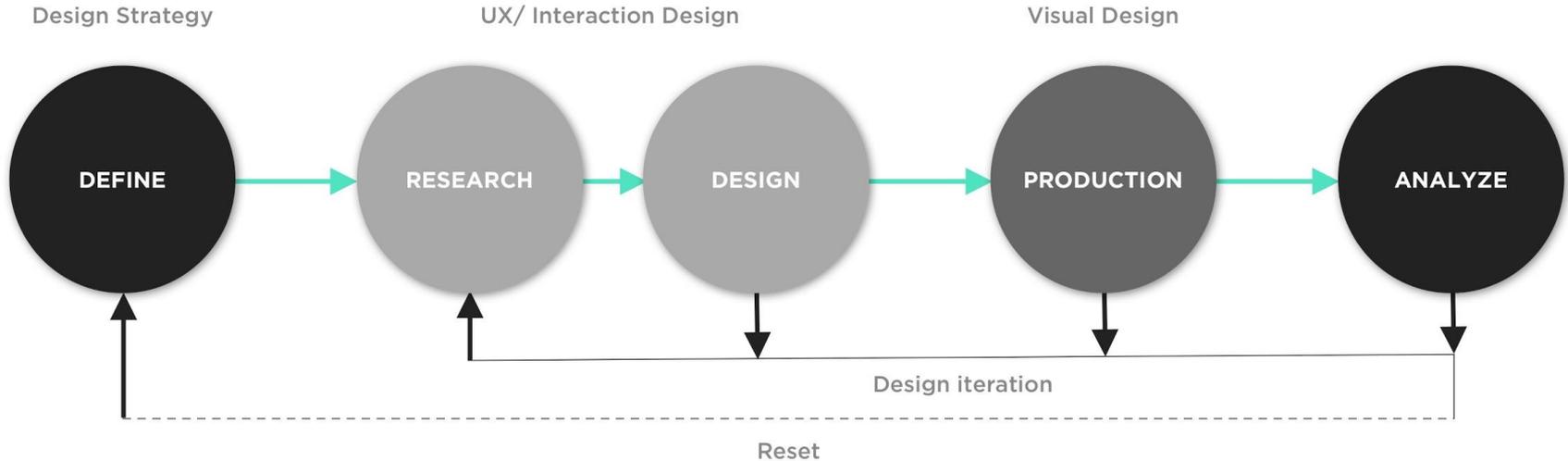
```
class Boxer: Agent {
```



```
}
```

**Behavioral
Cloning**

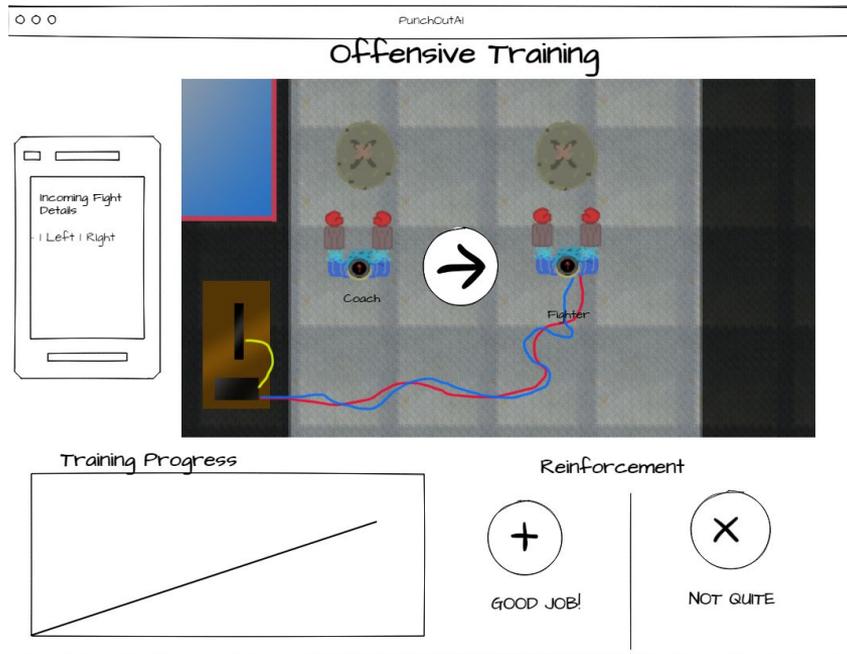
Game Design Process for Machine Learning



Changes Made Along the Way

o o o PunchOutAI

Offensive Training



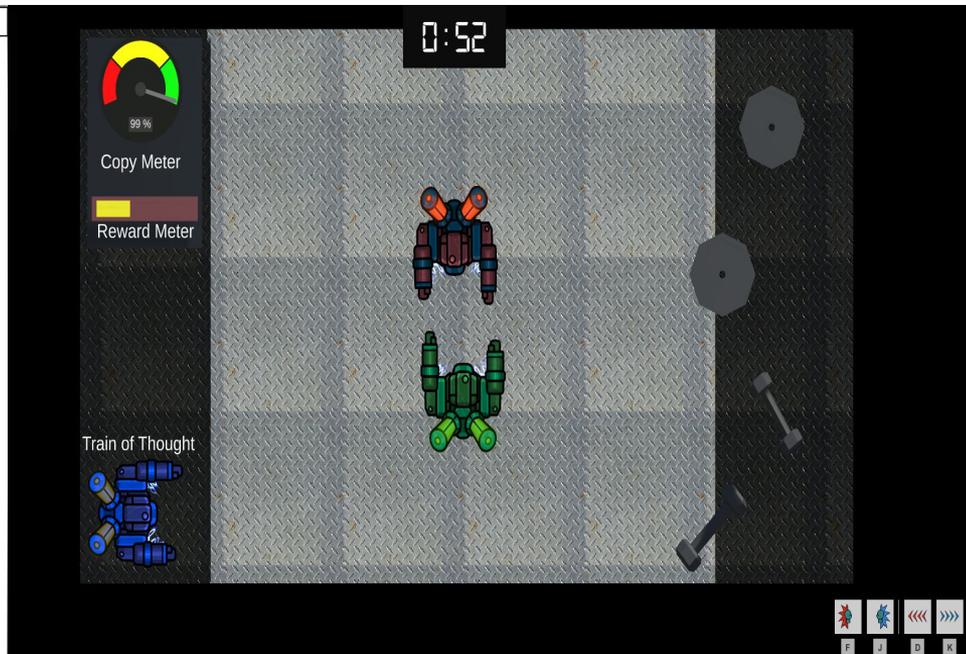
Incoming Fight Details
- Left | Right

Coach Fighter

Training Progress

Reinforcement

GOOD JOB! NOT QUITE



0:52

Copy Meter 99 %

Reward Meter

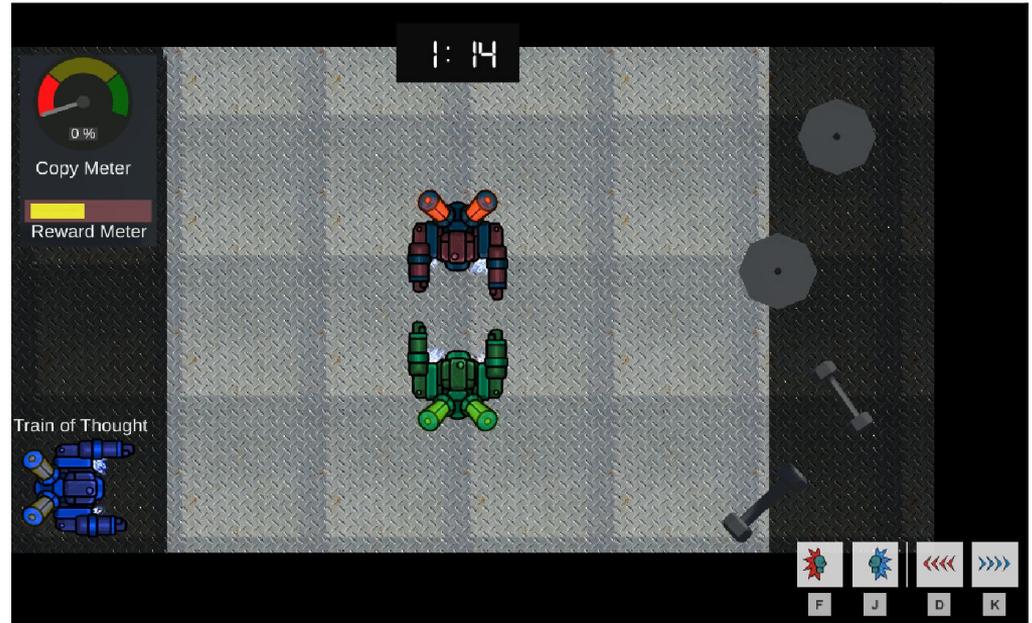
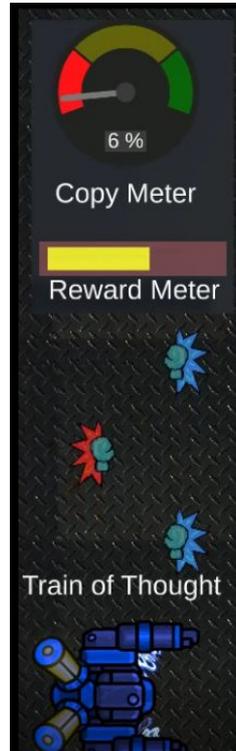
Train of Thought

F J D X

Communicating Information to Players



Communicating Information to Players



Input Sanitization

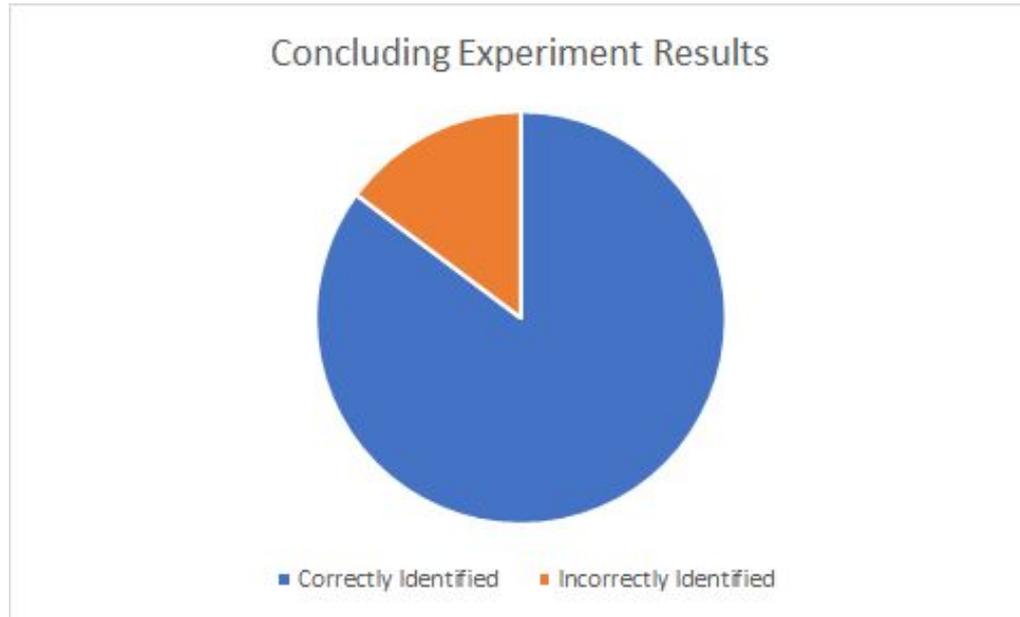
LEFT PUNCH

~~RIGHT PUNCH~~ IGNORED

LEFT DODGE

RIGHT PUNCH

Concluding Experiment Results



Conclusion

