

Wumpus World: A Knowledge-Based Agent

Graduate AI course, Intelligent Agents · Individual project

Sole author

A from-scratch simulator of the Wumpus World and a logic-driven agent that reasons from percepts to find the gold and survive.

I built the canonical AI testbed from scratch in Python: a grid cave with a hidden Wumpus, pits, and gold, with full percept generation, action handling, and scoring. On top of it I wrote a knowledge-tracking agent that reads breeze, stench, and glitter percepts, infers where the hazards are, and chooses its actions, compared against a naive random agent.



The 4x4 Wumpus World the agent reasons through, with hazards and the goal.

Implementation

The environment models percepts, actions, and the standard reward structure as an object-oriented Python system, with a game loop that delivers percepts, resolves actions, and ends the game on death or a successful climb out with the gold. About 800 lines of my own code.

SELECTED REFERENCES

- S. Russell, P. Norvig, Artificial Intelligence: A Modern Approach (Wumpus World).
- Washington State University, Wumpus World simulator framework.

Engineering portfolio brief. Course and team project; contribution as noted above.