CIS-730: Artificial Intelligence

Problem Set 1

Fall 2018

Homework 1 of 10: Problem Set (PS1)

Warm-up: Intelligent Agents, Search

Assigned: Mon 20 Aug 2018

Due: Wed 29 Aug 2018 on-campus, Fri 31 Aug 2018 distance (before midnight)

Solution by: John Boyington

Problem 1: (530/730) Perception and rationality.

Continuing the class discussion from Lecture 1 ("Intelligent Agents" – slide 0 of Lecture 0, slide 4 of Lecture 1): Consider voice-operated home assistant or smart home appliance as the agent to discuss. What limitations of this agent's sensors (instruments for collecting perceptual information) limit its view of the world? How does this impact its rationality? Give at least two concrete examples of the effects of sensor error and limitations. You may use measurement error and data processing error as effects, but specify which type you are writing about.

Solution: