Week 1 A.I.

Three large subfields

-Robotics

-Machine Learning(detecting paterns)

Cognititive systems(deep blue chess)

Example: a computer that plays by the rules of the game of chess(cognitive systems) would lose games and learn why(Machine Learning) and the (Robotics) used to play the game

Cognitive psychology – how humans come up with ideas. Two pathways.

AI Theories-

Testing Through the Theories

Critics consider many Ai’s to be impausable, due to not enough data collected(The amount used to collect to have a coverstation)

How ever if we can show a way the AI can not learn then we can cross that off, and then show what methods are possible.

Symbolic – dog/ or Juctice conceptional informational processing

Sub Symbolic- deduction

Perceive-Think-act: requires some knowledge (a goal, obtainable objective, ) Then work toward it.

The ability to add,delete,change goals help create complex behavior

Heuristic method- taking Chess game and limiting the computer to a relevant search area

**REASON<LEARNING<AND MEMORY** 9 more sections

Aftrer an interaction the Ai’ waits for feedback.

Then after the feed back is put to memory, for future use.

Case based reasoning – use of memory to remember things

The issue is that as memory is growing it becomes more expensive to use.

Reenforcement strategy - learn updates to the policy over time to a closer action selection.

Feedback is not immediately done, but waits a little bit for better feedback

Models – are used as mathematical variables to understand the environment, they used probabilities.

Nurreal networks – information in sub syombolic level.

Genetic alogrithims –

**Deliberation and Situated action**

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Deliberation – a plan to reach the goal

Situated action – thinking about how other objects are in the way,and acting as a way to stay out of the way

Swarm intelligence - Robotis working off of a network to work together helps the robots working together

**Deliberation and Reflection**

Long range planning – the roads eventually change

Short range planning- people moving in the current time

Adaptation –

How to stop from hurting people - How to determine who the robot kills(old person, young person)

Three steps: Learning, Reasoning, Memomry

**History**

AI goal posts have moved – like caluclators are no longer considered intgelllignece

Search engines

**Assessing Progress in AI**

Beeting people at chess for 25 years, but people no longer consider them as intelligent

Turing tests – a computer that can make a human think that the computer is a person