

CS448 Syllabus

Topics will include:

1. Philosophy
 - 1.1. Representation/Learning/Search
 - 1.2. The problem space and the solution space
 - 1.3. Prediction/Correction
 - 1.4. Turing Test
 - 1.5. Chinese Room
 - 1.6. How science works
 - 1.7. How research works
2. Cognition
 - 2.1. Many/mini minds (Dennet)
 - 2.2. Hebb's theory
 - 2.3. Consciousness
 - 2.3.1. Appears to lag action
 - 2.3.2. The story we tell ourselves?
 - 2.3.3. Where is it located?
3. Brain
 - 3.1. Corpus Callosum
 - 3.2. Superior Colliculus
 - 3.3. Dopamine/norepinephrine balance
 - 3.4. Synchrony
 - 3.5. How a neuron works
4. Techniques/Algorithms
 - 4.1. Perceptron/BP
 - 4.2. Genetic Algorithm
 - 4.3. Neural networks
 - 4.4. Classifier Systems
 - 4.5. Games
 - 4.5.1. minimax
 - 4.5.2. rote learning
5. Java
 - 5.1. Prototypes/testing
 - 5.2. interface
 - 5.3. abstract classes
 - 5.4. Class structure vs. algorithm complexity
 - 5.5. Clone (deep/shallow copy)
 - 5.6. Booch diagrams and class design