Administrivia

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Welcome

- Course Name: Introduction to Artificial Intelligence and Machine Learning
- Today's Agenda
  - Administrivia
  - Course objectives
  - A gentle introduction to AI/ML

Administrative Information

- Course Website (CEIBA)
  - Information of tentative syllabus, contact, etc.
- Grading
  - Homework (50%)
    - 40% Berkeley's PACMAN in Python.
    - 10% One Kaggle-like competition.
  - Midterm (30%)
  - Final (20%)

Course Materials

Major (AIMA)

- Artificial Intelligence: A Modern Approach by Russell & Norvig, 3^{rd} Edition, Prentice Hall.

Supplimental

- Machine Learning by Mitchell, McGraw-Hill (ML).
- Pattern Recognition and Machine Learning by Bishop, Springer.

Main Topics

- Search
  - Uninformed search.
  - Informed search.
  - Adversarial search.
- Probabilistic reasoning.
- Machine Learning
  - Computational learning theory
  - Reinforcement learning
  - Classification
  - Artificial neural networks & deep learning
- Logics
  - Propositional
  - First-order
  - Planning

Course Objectives & Prerequisites

- Objectives
  - Basic understanding of AI/ML.
  - Ability to read and understand AI/ML literature.
  - Ability to apply AI/ML Techniques to your own research.

- Prerequisites
  - [Mandatory] Curiosity, enthusiasm and passionate.
  - [Mandatory] Willing (and able) to learn Python.
  - [Optional] Basic knowledge of Logics ($A \Rightarrow B \equiv \neg A \vee B$, De Morgen).
  - [Optional] Basic knowledge of data structures (stacks, queues, heaps, BST).
  - [Optional] Basic knowledge of algorithms (BFS, DFS, MST).