



Introduction to Artificial Intelligence

Evaluation System

Percentage of In-Term Studies: 60%

1. Midterm Exam: 30%

2. Project + Presentation: 30%

Percentage of Final Exam: 40%

* It is obligatory to attend at least 60% of the courses to pass the course.

Recommended Sources

1. Stuart Russell, Peter Norvig; "Artificial Intelligence, A Modern Approach", Pearson, 3rd Edition, 2013.

Course Learning Outcomes

1. To learn the history of artificial intelligence
2. To learn the basic concepts of artificial intelligence
3. To learn artificial intelligence-based search algorithms.
4. To use appropriate artificial intelligence methods for the different problems
5. To develop applications by using basic artificial intelligence techniques

Weekly Subjects and Related Preparation Studies

Week Subjects

- 1 Introduction to artificial intelligence and basic concepts, history of artificial intelligence
- 2 Intelligent agents
- 3 Problem-solving: problem-solving agents and formulating problems
- 4 Search strategies include uninformed search: breadth-first search, depth-first search, uniform-cost search, depth-limited search, iterative deepening depth-first search, bidirectional search
- 5 Applications of uninformed search methods
- 6 Heuristic search methods; Greedy and A * search
- 7 Applications of heuristic search methods
- 8 Hill-climbing algorithm, simulated annealing algorithm, local beam algorithm, genetic algorithms
- 9 Midterm 1
- 10 Genetic algorithm and its applications
- 11 Search with non-deterministic actions, searching with no observations, searching with partial observation
- 12 Search in games, minimax algorithm, alpha-beta pruning, search in stochastic games
- 13 Project presentations
- 14 Make-up Exam, Project presentations
- 15 Final Exam