REVIEW

Introduction

- What is AI?
- What can we do with AI?
- Ancestors of AI
- History of AI

Search

- Blind search
  - Breadth-first & uniform cost
  - Depth-first
  - Iterative deepening
- Heuristic search
  - Best-first: greedy, A$*$
  - Hill-climbing
  - Simulated annealing
  - Genetic algorithms
- Game playing

Representation and reasoning

- Propositional logic
  - Syntax
  - Semantics
  - Inference
- Constraint satisfaction
- Predicate calculus
- Other methods

Uncertainty

- Conditional independence
- Bayesian networks
- Exact inference
- Approximate inference
- Decision theory

Machine learning

- Version spaces
- Decision trees
- Ensembles
- Rule induction
- Bayesian learning
- Nearest neighbor
- Neural networks
- Learning theory

Planning

- Representing actions
- Planning as search
- Graphplan
- Compilation to SAT

Natural language processing

- Syntax
  - Context-free grammars
  - CFGs with features
- Semantics
- Statistical NLP
  - Word sense disambiguation
  - Latent semantic indexing