CSE 573:
Artificial Intelligence I

Instructor:
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Administrivia

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• **Class web:** http://www.cs.washington.edu/573

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Source materials

• Textbook

Artificial Intelligence: A Modern Approach (3rd Ed.)
Stuart Russell and Peter Norvig
Prentice-Hall

• Papers
Evaluation

Four assignments (25% each):

• Problem solving and search
• Representation and reasoning
• Uncertainty
• Machine learning
What is AI?

- Automation of reasoning, problem solving, learning
- Study of mental faculties through computational models
- Making computers do what people currently do better
- Study of heuristic solutions to NP-complete problems
What can you do with AI?

- Beat Kasparov at chess
- Prove new theorems in mathematics
- Do medical diagnosis better than doctors
- Design new drugs
- Query databases in English
- Design a robot that runs errands
What can you do with AI? (contd.)

- Organize the deployment of US troops & equipment in the Gulf
- Solve complex scheduling problems in manufacturing
- Predict the stock market
- Create more realistic characters for computer games
- Design software agents that search the Web for you
Topics for this quarter

• Problem-solving and search
• Representation and reasoning
• Uncertainty
• Machine learning
Ancestors of AI

• Computer science
• Mathematics
• Philosophy
• Probability and statistics
• Decision theory and economics
• Psychology
• Biology
• Control systems
• Operations research
History of AI

• 50’s: AI is born; neurons, games, logic
• 60’s: Youthful enthusiasm; search, microworlds, the rift
• 70’s: Knowledge representation
• 80’s: AI becomes an industry; neural nets return
• 90’s-00’s: AI matures; realistic applications, probability, learning, the Web