

# 1 Introduction and Background

- So what is AI as a field? What exactly are we studying here?
- “Strong” AI: trying to build systems that think and act like humans
- “Turing test” sense
- Even stronger views – act like humans b/c implement the same algorithms, neural structures, etc. that human brains/minds do.
- Acting “rationally” – decision theory
- “Weak” AI: trying to build systems that do more useful things

# 2 AI Topic Areas and Tools

- Game playing: decision theory, game theory, statistics
- Theorem proving: symbolic logic, combinatorics
- Automated reasoning
- Philosophy
- Natural language understanding (NLP)
- Speech recognition
- Robotics
- Vision/sensory
- Cognitive/neural modeling
- Pattern recognition
- Learning
- Agents

# 3 A (Very!) Brief History of AI

- c. 350 BC: Aristotilian logic
- c. 1600 AD: Descartes and dualism
- Pre-1950’s: cognitive psychology
- 1950’s: first computation, control theory, cybernetics, hacking

- 1960's: symbolic logics and reasoning
- 1970's: knowledge-based systems, expert systems
- 1980's: commercial AI, enthusiasm, overmarketing, The AI Crash
- 1990's: neural networks, rise of statistical and learning methods, scientific methodology