# CS 5100: Foundations of AI

## History

Instructor: Rob Platt
rplatt@ccs.neu.edu

College of Computer and information Science
Northeastern University

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# A short (and scattered) history of AI

- 1952, Arthur Samuel: developed a computer program that could play checkers (using an early version of alpha-beta pruning).

# Irrational Exuberance

Herbert Simon (1957):

"It is not my aim to surprise or shock you – but the simplest way I can summarize is to say that there are now in the world machines that think, that learn, and that create. Moreover, their ability to do things is going to increase rapidly until – in a visible future – the range of problems they can handle will be coextensive with the range to which the human mind has been applied."

Image: Wikicommons

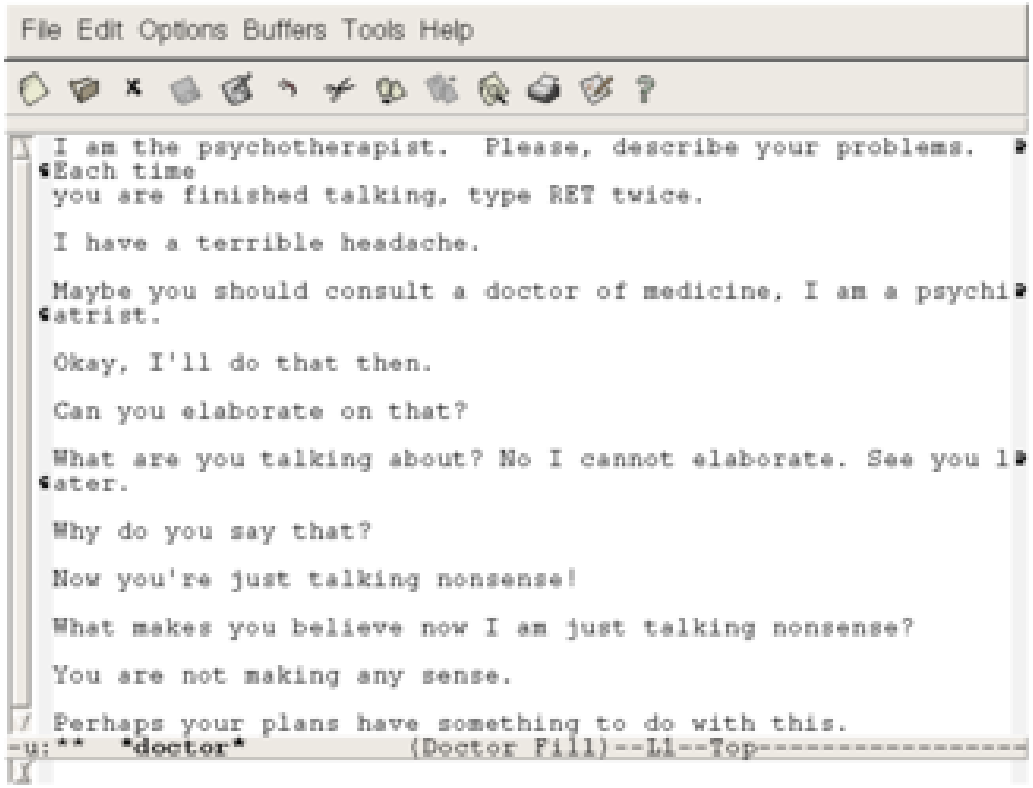
# A short (and scattered) history of AI

- 1960, Donald Michie: MENACE (Matchbox Educable Noughts And Crosses Engine) – a program that learned to play an optimal game of tic-tac-toe (an early version of RL).

# A short (and scattered) history of AI

- 1962, Frank Rosenblatt: Percptrons. Proof that simple neural network learning algorithms can learn any pattern that can be represented by the network.
  - But, it turns out that many interesting functions cannot be represented this way: xor, for example.

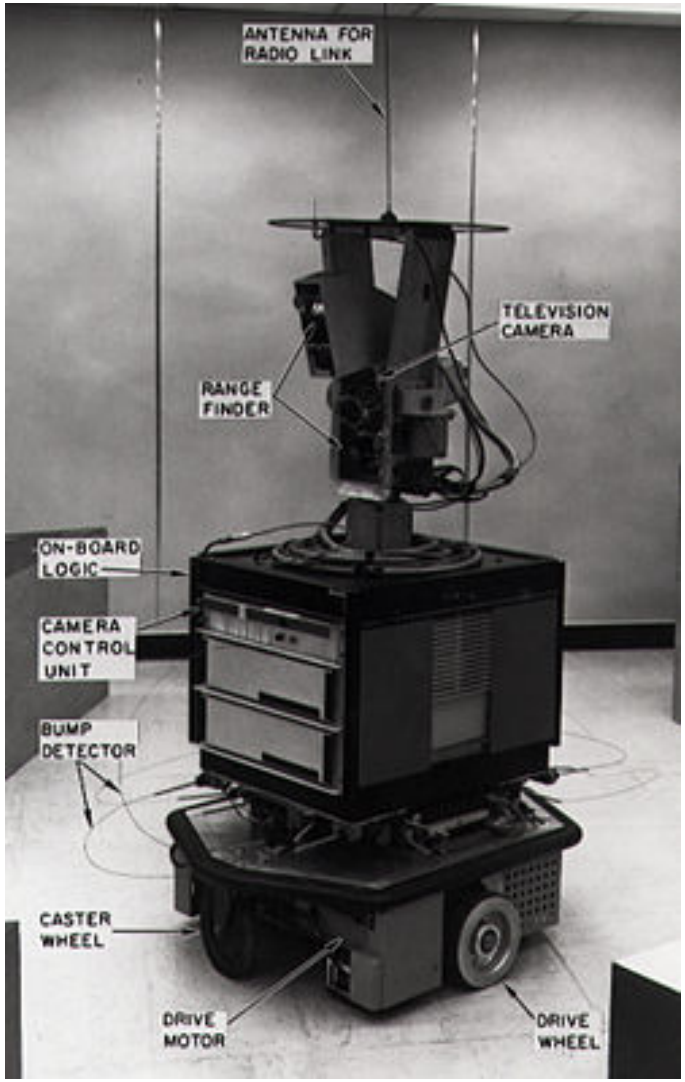
# A short (and scattered) history of AI




- 1964–1966, Joseph Weizenbaum: ELIZA, natual language interation based on scripts.

# A short (and scattered) history of AI

- late 1960s, Nilsson *et. al.*: Shakey project at SRI (occasioned the development of STRIPS, an early planner).



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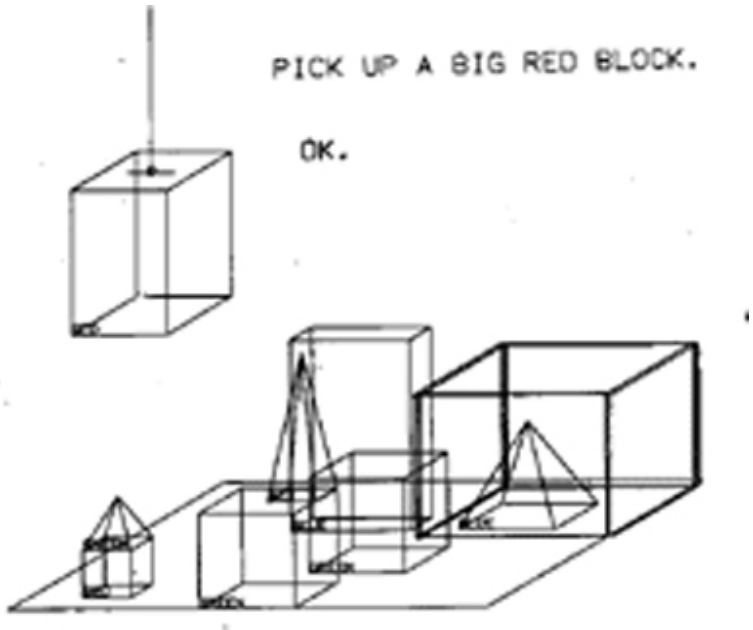


- 1972, Terry Winograd: SHRDLU, natual language understanding in the context of a "blocks world".