

The Analytical Engine has no pretensions whatever to originate anything. It can only do whatever we know how to order it to perform.

Ada Byron,
Countess of Lovelace
and daughter of the poet Byron

I 'm sorry, Dave. I can ' t let you do that.

HAL 9000,
in 2001: A Space Odyssey,
by Arthur C. Clarke

What is Artificial Intelligence?

The big question:

How can minds work?

Related questions:

How do minds work?

Can non-humans have minds?

What is so difficult?

Some problems are *intractable*.

Yet humans solve such problems all the time. How?

We settle for answers that are **good enough**.

That is, we satisfice, not optimize.

Artificial Intelligence and Computer Science

Is:

Artificial intelligence is a subset of computer science.

Or is:

Computer science is a subset of artificial intelligence.

Some of the goals of AI:

- to loosen the constraints on communication with the machine
- to loosen the constraints on the data we give our programs as input
- to loosen the constraints on the functions and objects that we model

A Definition of Artificial Intelligence

Here is my favorite serious definition of AI:

Artificial intelligence is the computational study of how a system can perceive, reason, and act in complex environments.

the first Fortran compiler

timesharing systems

workstations

Deep Blue

object-oriented programming

visual programming

client-server computing

web crawlers

Yahoo! Store

... all originated or took their current form as a part of AI research.