

LAMBDA SCHOOL DATA SCIENCE GENERAL ARTIFICIAL INTELLIGENCE & THE FUTURE



IN THE EARLY HISTORY OF COMPUTERS, THIS SEEMED LIKE AN EASIER QUESTION. INTELLIGENCE MEANT SOLVING TRICKY PROBLEMS - THINGS THAT TOOK TIME AND MENTAL EFFORT FOR A HUMAN TO FIGURE OUT.

**TODAY, HOWEVER, THE
GOAL LINE OF MACHINE
INTELLIGENCE HAS
MOVED.**



TODAY'S AI GOALS ARE DRIVEN BY CHARACTERS IN POPULAR FICTION

Some examples include:

- Data (Star Trek)
- The Terminator
- Ava (Ex-Machina)
- Samantha (Her)
- Rachel (Blade Runner)
- Tars (Interstellar)
- Maschinenzwerg¹ (Metropolis)

Discussion: What do these characters have in common?

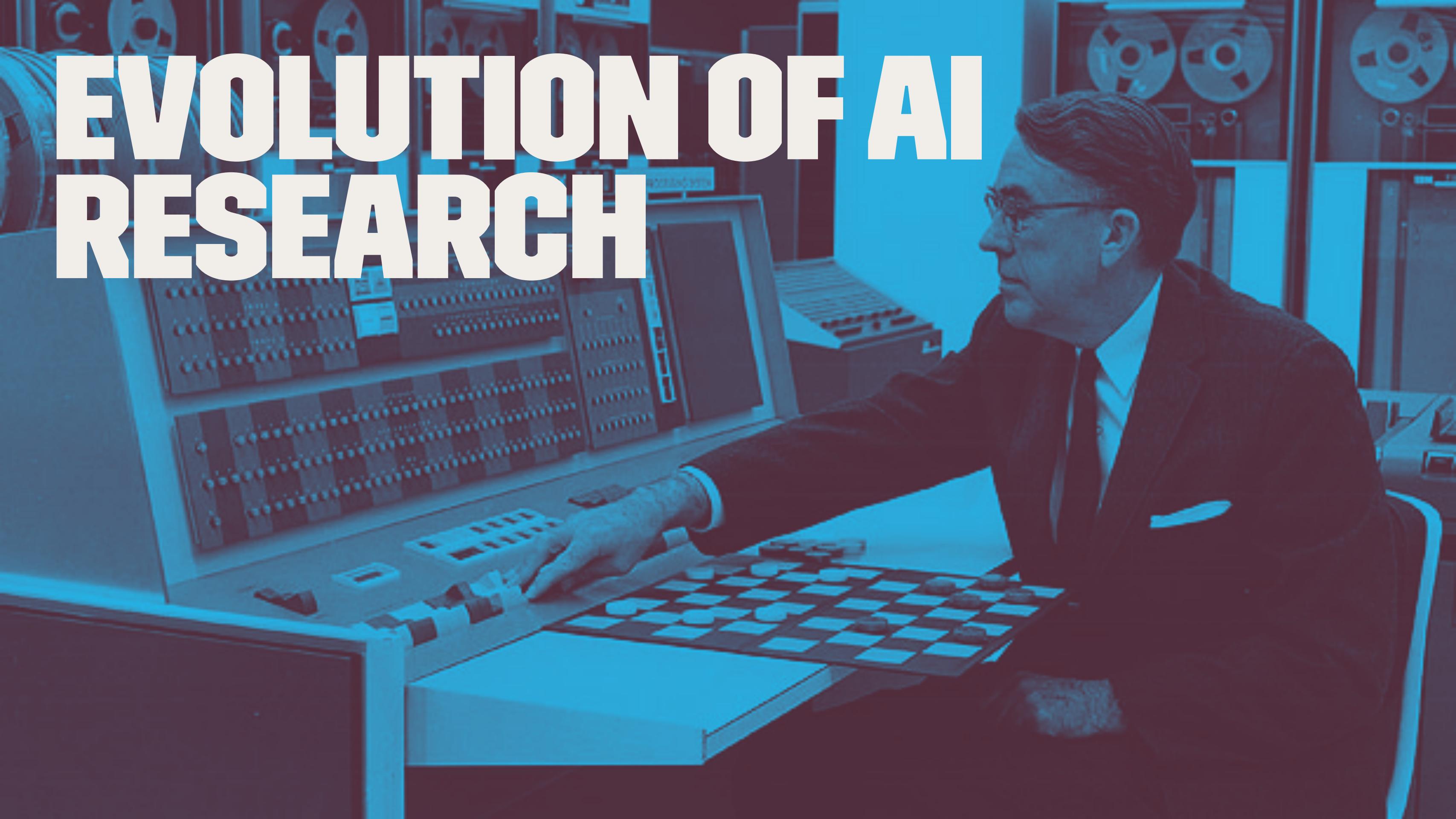
¹ The first AI in film appearing in 1927

**EACH CHARACTER IS
REMARKABLY HUMAN.**



**WE ENVISION MACHINES
EXACTLY LIKE OURSELVES -
BEING CAPABLE OF SELF
REFLECTION, EMOTION,
VIOLENCE, AND CREATION.
MACHINES THAT COULD IN
ESSENCE REPLACE US.**

EVOLUTION OF AI RESEARCH



AI OVER TIME

- » Pre 1950s: Limited achievements until electronic computation became possible during WWII
- » 1950s - 1960s: Golden Age of AI
- » 1970s: AI Winter
- » 1980s: Narrow AI Boom
- » 1990s: Neural Network Renaissance
- » 2000s: Cheap Computers
- » 2010s: Modern Neural Network Frameworks

AI ACHIEVEMENTS IN GAMES

- » 1994: Checkers
- » 1997: Chess
- » 2006: Scrabble
- » 2011: Jeopardy!
- » 2016: Go².
- » 2018+: StarCraft³.

² You should watch the Netflix documentary on DeepMind's AlphaGo and AlphaGoZero.

³ Research into this game is ongoing by Facebook & OpenAI.



MACHINE LEARNING

“Field of study that gives computers the ability to learn without being explicitly programmed.”

Arthur Samuel, 1959

ARTIFICIAL INTELLIGENCE

“The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.”

English Oxford Living Dictionary