Artificial Intelligence And Operating Systems

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OS_LAB
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Future of Operating Systems

Can We Build ‘Her’?

“A scene from "Her.”
Dir: Spike Jonze

What Samantha Tells Us About the Future of AI...

Types

- Narrow
- General(Strong)
- SuperIntelligence

Today

Speech Recognition

Apple

Microsoft

Google


OS 1

About Samantha

- ✓ speech recognition
- ✓ natural language understanding
- ✓ speech generation

- ✓ Dialog
- ✓ reasoning
- ✓ Planning
- ✓ learning all far exceed the current state of the art

H-e-r

She is able to engage in flexible reasoning without any obviously predetermined responses!

1.

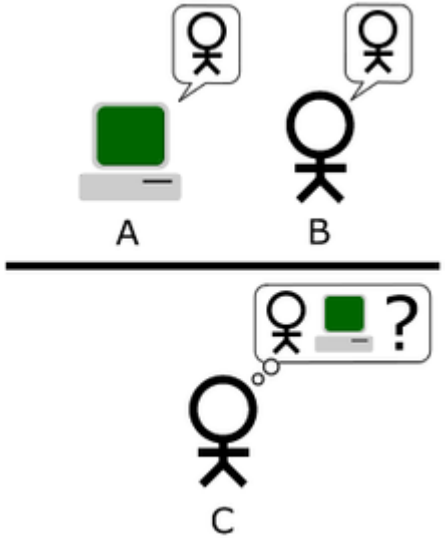
Learning Like a Machine

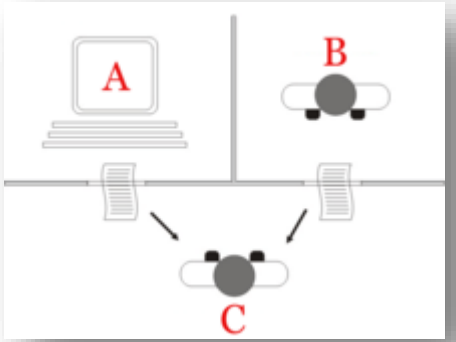
“A computer would deserve to be called intelligent if it could deceive a human into believing that it was human.”

Alan Turing

Turing Test

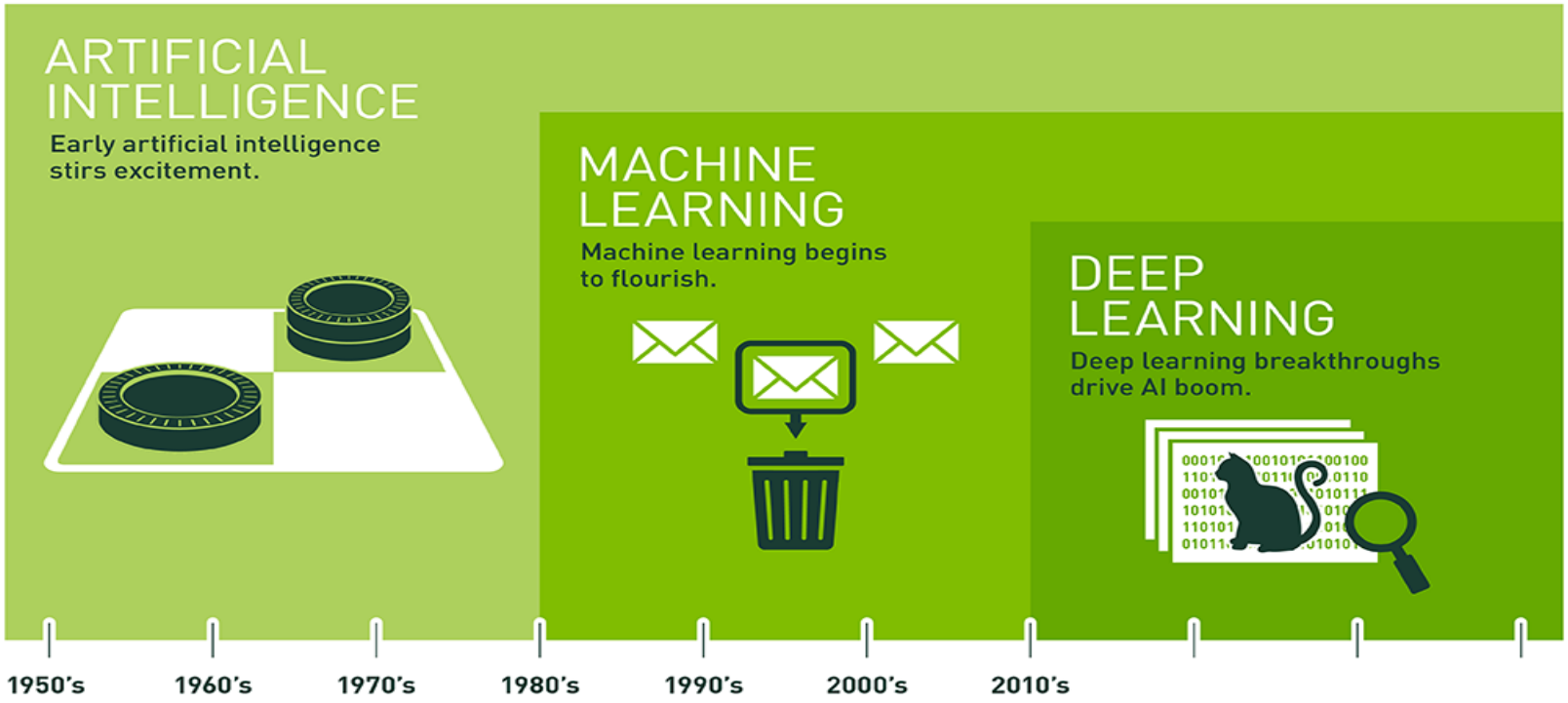
- developed by ***Alan Turing*** in 1950





The "standard interpretation" of the Turing Test, in which player C, the interrogator, is given the task of trying to determine which player – A or B – is a computer and which is a human. The interrogator is limited to using the responses to written questions to make the determination

Deep Learning



Since an early flush of optimism in the 1950s, smaller subsets of artificial intelligence – first machine learning, then deep learning, a subset of machine learning – have created ever larger disruptions.

Recognition

- Deep Neural Networks (DNNs):
- pattern matchers

  layers of simple processing units inspired by the neural networks in the brain

able to classify a broad variety of inputs — speech utterances, images, sequence of recognized words, location and speed data —and classify these into desired categories

- ***learning from examples***
- ***trial and error — observations***

Types

- Intelligence by Observation
- Intelligence by Instruction
- **Emotional Intelligence**

Emotional Intelligence

There is also that astonishing voice… Samantha had us at that first playful and breathy "Hi."

- Samantha behaves in an utterly human-like manner, with a true sense of what is humorous and sad.

This is yet a higher level of reasoning, and huge challenges remain to truly understand — and program — social relationships, emotional ties, and humor, which are all parts of everyday knowledge.

It is more conceivable that we will be able to make a system understand why a person feels sad or happy, than actually simulating or replicating visceral feelings in machines.

- Much of human behavior is motivated by emotions and not by black-and-white logical arguments

What's wrong with Samantha?

It is hard to imagine how Samantha could be as empathetic and socially sensitive as she seems to be without a stronger connection to the physical world.

It is difficult to see how she could even manage without access to a rich set of sensors to provide a broader context for her interactions.

- Towards the end of her evolution, Samantha becomes interested in the work of philosopher Alan Watts, that probably is not as easy as it seems!

Senses and Sensibility

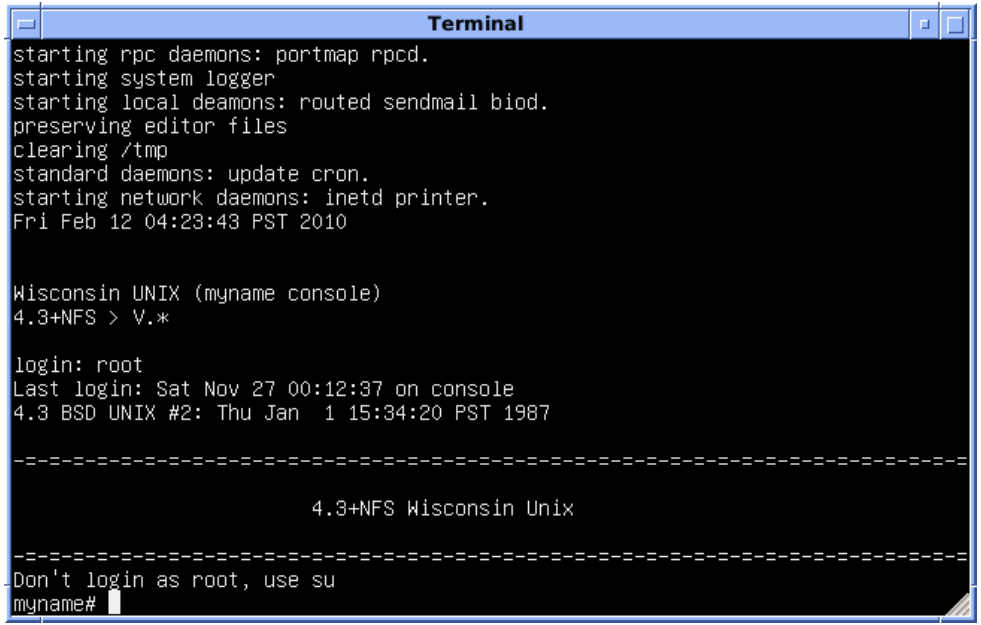
A complex idea can be conveyed with just a single still image, namely making it possible to absorb large amounts of data quickly.

Consciousness ????????????

the real promise of AI — at least as we see it — is not the creation of artificial companions, but an Amplification of Intelligence (ours) through the creation of amazing and transformative tools.

2.

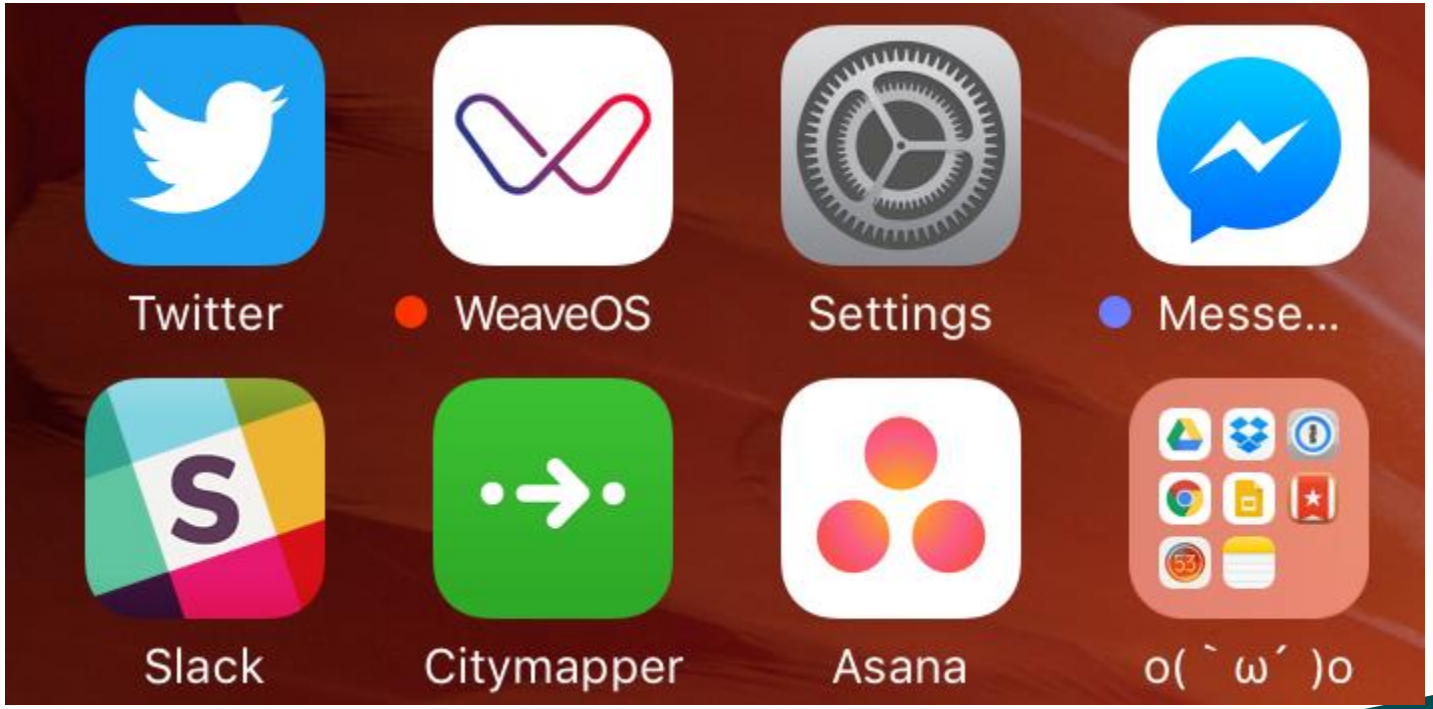
Future of operating systems

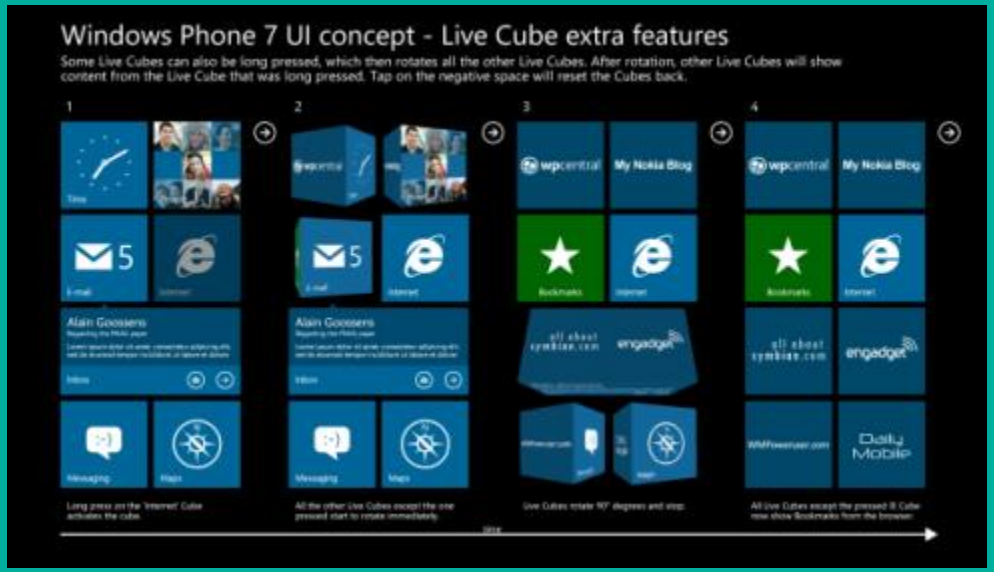


First it was the command line (1960s)

Then it was replaced by Windowing systems (1980s)

Then it migrated to an App economy! (2000s)

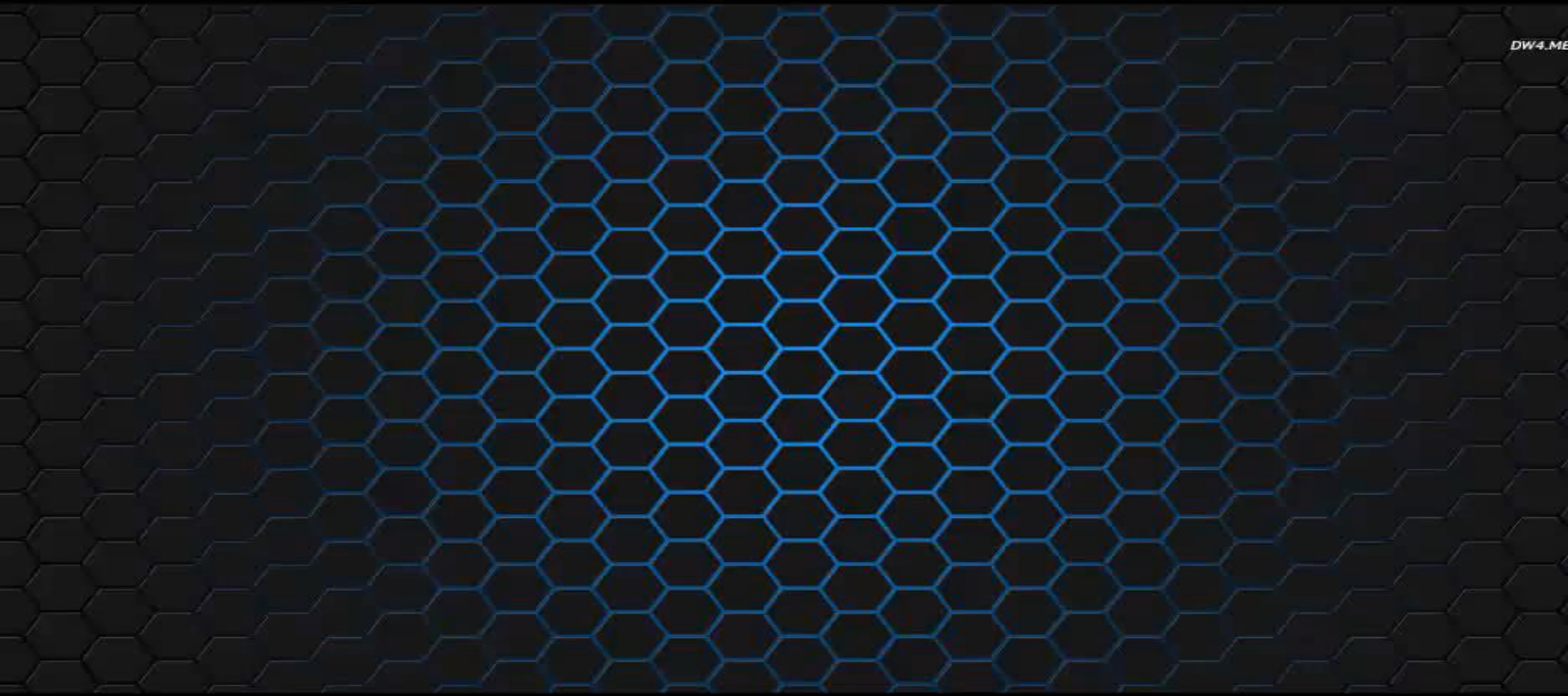




The future looks a lot like Metro

Essential Home

- Weather checking
- Music Services
- Working with different systems



Thanks!

Any questions?

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