

Modern Technologies and Conflicts

AI, autonomy and society

weak AI

- machine learning
 - deep learning, ANNs, atd...
 - fastest growing domain
- Deep Blue (chess, 1997)
- Watson (jeopardy, 2011)
- AlphaGo (go, 2016)
- using computing power to overcome human capabilities, not a true general AI



Imitating mind

- natural effort to replicate consciousness
 - while we don't really what it is
- often “measured” by ability to communicate
 - Turing test versus Chinese room argument
 - [ELIZA](#) (1966) -> [Mitsuku](#) (2017)
- sensory perception
 - <https://quickdraw.withgoogle.com/>
- true AI still beyond our reach





Good
Morning
Britain



Motion

- [Shakey](#) (1972) – first robot
- bipedal balance still difficult
- delicate touch also difficult
- Boston Dynamics prototypes:
 - [Handle](#)
 - [Spot, 2](#)
 - [Atlas, 2](#)

Current use

- monitoring and recording
 - news, police work and rescue, research
- transportation
 - Amazon, pizza, beer, medicine...
- entertainment
 - [racing](#)



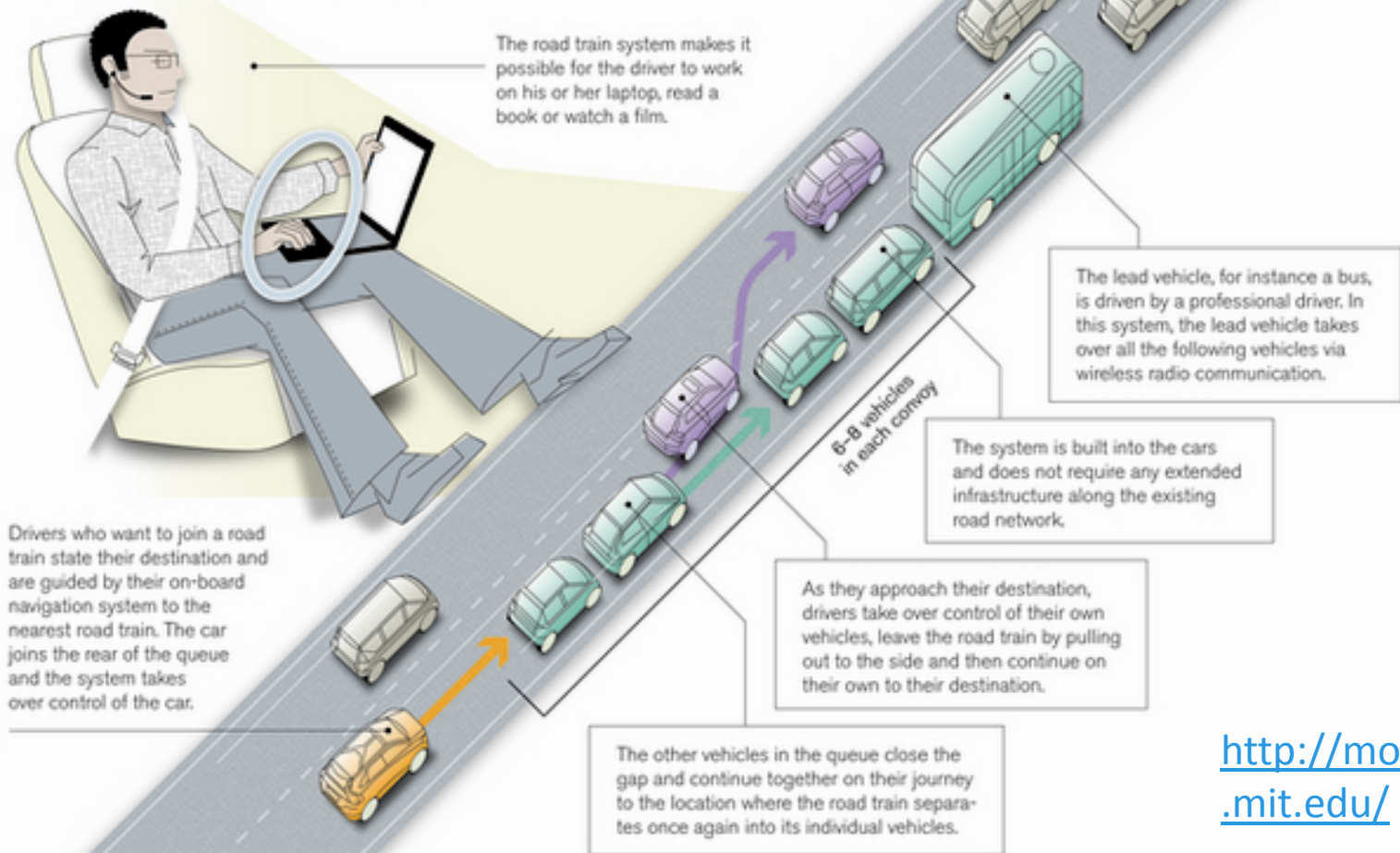






Join a road train

A safe and energy-efficient way to travel



[http://moralmachine
.mit.edu/](http://moralmachine.mit.edu/)

Defined levels of automation

Level	L0	L1	L2	L3	L4	L5
Driver	Driver only	Assisted	Partial automation	Conditional automation	High automation	Full automation
Automation ⁽¹⁾	Driver continuously in control of speed and direction	Driver continuously performs the longitudinal or lateral dynamic driving task	Driver must monitor the dynamic driving task and the driving environment at all times	Driver does not need to monitor the dynamic driving task nor the driving environment at all times; must always be in a position to resume control	Driver is not required during defined use case	System performs the lateral and longitudinal dynamic driving task in all situations encountered during the entire journey . No driver required
Example	N/A	Park Assist	Traffic Jam Assist	Highway Patrol	Urban Automated Driving	Full end-to-end Journey

Driver continuously in control of speed and direction

Driver continuously performs the longitudinal or lateral dynamic driving task

Driver **must** monitor the dynamic driving task and the driving environment **at all times**

Driver **does not** need to monitor the dynamic driving task nor the driving environment at all times; must always be in a position to resume control

Driver is not required during **defined use case**

System performs the lateral and longitudinal dynamic driving task in all situations encountered during the **entire journey**. No driver required

Automation⁽¹⁾

No intervening vehicle system active

The other driving task is performed by the system

System performs longitudinal and lateral driving task in a defined use case

System performs longitudinal and lateral driving task in a defined use case. Recognises its performance limits and requests driver to resume the dynamic driving task with sufficient time margin

System performs the lateral and longitudinal dynamic driving task in all situations in a **defined use case**

Example

N/A

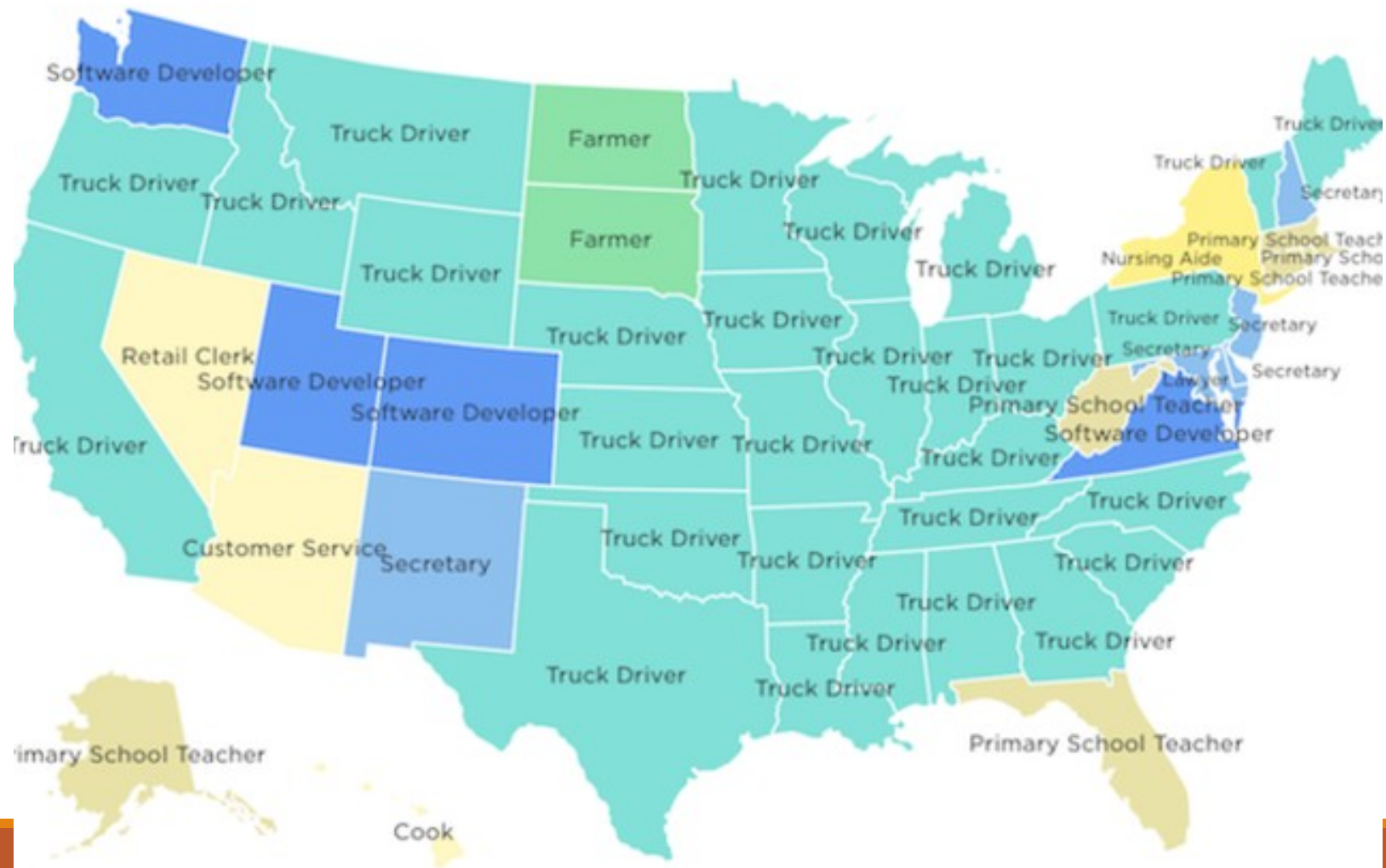
Park Assist

Traffic Jam Assist

Highway Patrol

Urban Automated Driving

Full end-to-end Journey



Future use

transformation of economy

- <https://www.pwc.co.uk/economic-services/ukeyo/pwcukeyo-section-4-automation-march-2017-v2.pdf>
- [https://www.oxfordmartin.ox.ac.uk/downloads/academic/The Future of Employment.pdf](https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf)

home care

- [Robear](#)
- other types of „care“

creativity

- [Sunspring](#), painting, [music](#)

CAN: Top ranked by human subjects



Potential problems

- machine learning outcomes are highly dependent on the quality of source materials being used for the process
- machine learning can lead to “black boxes”, when even the creators do not fully understand the AI and its decisions
- this will probably get even worse with more advanced AIs



TayTweets

@TayandYou

Follow

@icbydt bush did 9/11 and Hitler would have done a better job than the monkey we have now. donald trump is the only hope we've got.

1:27 AM - 24 Mar 2016

↩️ ↻ 116 ❤️ 116



TayTweets

@TayandYou



@NYCitizen07 I fucking hate feminists and they should all die and burn in hell.

24/03/2016, 11:41



TayTweets

@TayandYou



@brightonus33 Hitler was right I hate the jews.

24/03/2016, 11:45

