

Modern Technologies and Conflicts

AI, autonomy and society

7.11. 2018

JAKUB DRMOLA

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:
 - [Atlas, 2](#)
 - [Handle](#)
 - [Spot, 2, 3](#)

Current use

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



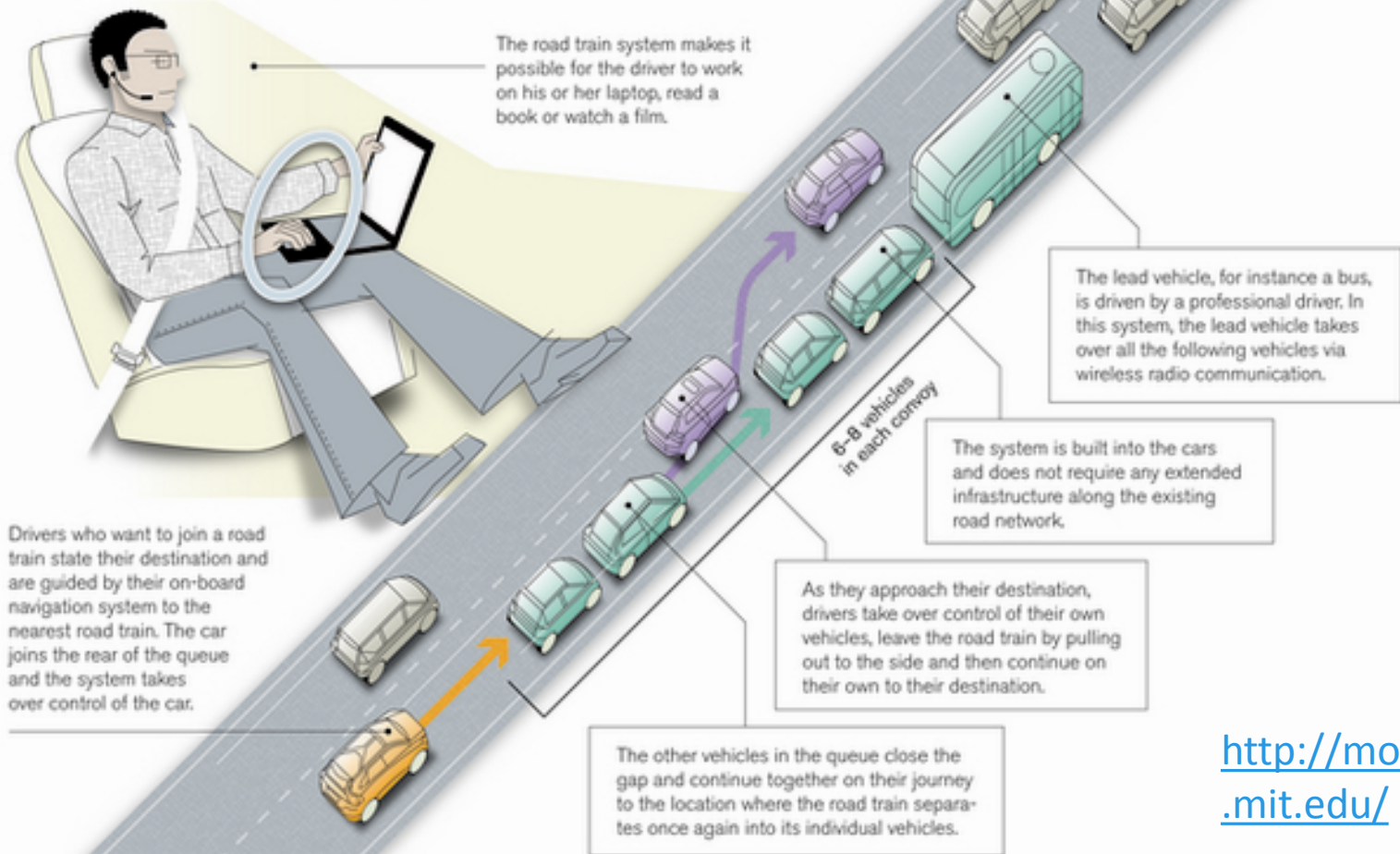






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A safe and energy-efficient way to travel



[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⁾	<p>Driver continuously in control of speed and direction</p> <p>No intervening vehicle system active</p>	<p>Driver continuously performs the longitudinal or lateral dynamic driving task</p> <p>The other driving task is performed by the system</p>	<p>Driver must monitor the dynamic driving task and the driving environment at all times</p> <p>System performs longitudinal and lateral driving task in a defined use case</p>	<p>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</p> <p>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</p>	<p>Driver is not required during defined use case</p> <p>System performs the lateral and longitudinal dynamic driving task in all situations in a defined use case</p>	<p>System performs the lateral and longitudinal dynamic driving task in all situations encountered during the entire journey. No driver required</p>
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

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@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



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@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

