

**Assignment #1 CPSC 533V Jan 2020
due in class, Tue Jan 21**

- 1) Read the paper:
"A critique of pure learning and what artificial neural networks can learn from animal brains"
<https://www.nature.com/articles/s41467-019-11786-6.pdf>

- a) Give two implications (of the many possible implications) of the proposed point-of-view for reinforcement learning.
- b) Give an argument that goes at least partly against the given point of view.

Keep your answers short, i.e., one paragraph for each implication and each argument. Be original!

- 2) Learning for Dynamics and Control (L4DC) is a workshop/conference that looks at topics lying at the intersection of control and reinforcement learning. <https://l4dc.mit.edu/>

Recommended videos to watch from the first (2019) version of L4DC include:

"John Tsitsiklis (MIT): "The Shades of Reinforcement Learning"
"Emma Brunskill (Stanford University): "Efficient RL When Data is Costly"
"Russ Tedrake (MIT): "Learning manipulation — and why I (still) like $F=ma$ "
"Sergey Levine (UC Berkeley): "Robots That Learn By Doing"
"Angela Schoellig (University of Toronto): "Machine Learning for Robotics"

Watch one of the talks, and answer the following questions:

- a) Briefly summarize 3 things that you learned with regard to RL and/or control. These could be related to any of history / open problems / theory / practice.
- b) List three concepts/assumptions/issues from the talk that you do not fully understand, i.e., that you would have difficulty explaining to someone else.