# ALDEBATE 2

# MOVING AI FORWARD: AN INTERDISCIPLINARY APPROACH PRE-READINGS

A PREPRINT

# Vincent Boucher\* MONTRÉAL.AI MONTREAL.AI Debates Series

Montreal, Quebec, Canada info@montreal.ai

December 20, 2020

#### ABSTRACT

Pre-readings recommended to the audience before AI DEBATE 2 - Moving AI Forward: An Interdisciplinary Approach. Confirmed speakers: Ryan Calo, Yejin Choi, Daniel Kahneman, Celeste Kidd, Christof Koch, Luis Lamb, Fei-Fei Li, Adam Marblestone, Margaret Mitchell, Robert Osazuwa Ness, Judea Pearl, Francesca Rossi, Ken Stanley, Rich Sutton, Doris Tsao, Barbara Tversky. Moderator and co-organizer: Gary Marcus. Hashtag: #AIDebate2.

WebPage: https://montrealartificialintelligence.com/aidebate2/.

**RSVP** for the live streaming event at https://aidebate.eventbrite.ca.

# 1 Ryan Calo's Pre-Readings

Preliminary Remark Title at AI DEBATE 2: Artificial Intelligence Policy: Not Just A Matter of Principles Artificial Intelligence Policy: A Primer and Roadmap, Ryan Calo, 2017: https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3015350

Homepage: https://twitter.com/rcalo

# 2 Yejin Choi's Pre-Readings

Preliminary Remark Title at AI DEBATE 2: Commonsense AI: Cracking the Longstanding Challenge in AI Keynote at the Stanford Human-Centered AI (HAI) Conference on Triangulating Intelligence: Melding Neuroscience, Psychology, and AI: https://www.youtube.com/watch?v=19ZaKOIzsVY?t=1680 Homepage: https://homes.cs.washington.edu/~yejin/

# 3 Celeste Kidd's Pre-Readings

Preliminary Remark Title at AI DEBATE 2: *Profound impacts of AI (and its biases) on human beliefs*The Psychology and Neuroscience of Curiosity, Kidd and Hayden, Neuron, 2015: http://www.celestekidd.com/

<sup>\*</sup>Founding Chairman at MONTRÉAL.AI and QUÉBEC.AI http://www.montreal.ai.

papers/KiddHayden2015.pdf. Homepage: www.kiddlab.com

# 4 Christof Koch's Pre-Readings

Preliminary Remark Title at AI DEBATE 2: Don't look (anymore) at neuroscience for help with AI

Homepage: https://christofkoch.com/

# 5 Luis Lamb's Pre-Readings

### Preliminary Remark Title at AI DEBATE 2: Neurosymbolic AI: The 3rd Wave

Neurosymbolic AI: The 3rd Wave, Artur d'Avila Garcez and Luis Lamb, 2020: https://arxiv.org/abs/2012.05876

Homepage: http://www.inf.ufrgs.br/~lamb

# 6 Fei-Fei Li's Pre-Readings

Preliminary Remark Title at AI DEBATE 2: In search of the next AI North Star: a tale of two kittens

# 7 Adam Marblestone's Pre-Readings

#### Preliminary Remark Title at AI DEBATE 2: Leveraging neuro-technology for AI

Toward an Integration of Deep Learning and Neuroscience, Marblestone et al., 2016: https://www.frontiersin.org/articles/10.3389/fncom.2016.00094/full.

Homepage: www.adammarblestone.org

# 8 Gary Marcus's Pre-Readings

# Preliminary Remark Title at AI DEBATE 2: The Next Decade in AI

The Next Decade in AI: Four Steps Towards Robust Artificial Intelligence, Gary Marcus, 2020: https://arxiv.org/abs/2002.06177v3.

Homepage: http://rebooting.ai/

#### 9 Judea Pearl's Pre-Readings

# Preliminary Remark Title at AI DEBATE 2: The Domestication of Causal Reasoning: Cultural and Methodological Implications

The Seven Tools of Causal Inference, Judea Pearl, 2016: https://ucla.in/2HI2yyx.

Radical Empiricism and Machine Learning Research, Judea Pearl, 2020: https://ucla.in/32YKcWy.

Data versus Science: Contesting the Soul of Data-Science, Judea Pearl, 2020: https://ucla.in/3iEDRVo.

Homepage: http://bayes.cs.ucla.edu/jp\_home.html

# 10 Francesca Rossi's Pre-Readings

# Preliminary Remark Title at AI DEBATE 2: Thinking Fast and Slow in AI: Towards more general and trustworthy AI

Thinking fast and slow in AI (AAAI blue-sky ideas track, 2021), Booch et al., 2020: https://arxiv.org/abs/2010.

06002.

# 11 Kenneth Stanley's Pre-Readings

# Preliminary Remark Title at AI DEBATE 2: Open-Endedness, Evolution, and AI

Open-endedness: The last grand challenge you've never heard of, Stanley et al., 2017: https://www.oreilly.com/radar/open-endedness-the-last-grand-challenge-youve-never-heard-of/.

# 12 Doris Tsao's Pre-Readings

Preliminary Remark Title at AI DEBATE 2: How the brain builds a model of the world: insights from neuroscience

The macaque face patch system: a turtle's underbelly for the brain, Janis K. Hesse and Doris Y. Tsao, 2020: https://www.nature.com/articles/s41583-020-00393-w?proof=t. Homepage: https://www.tsaolab.caltech.edu/

# 13 Barbara Tversky's Pre-Readings

Preliminary Remark Title at AI DEBATE 2: Thinking with the Body and the World