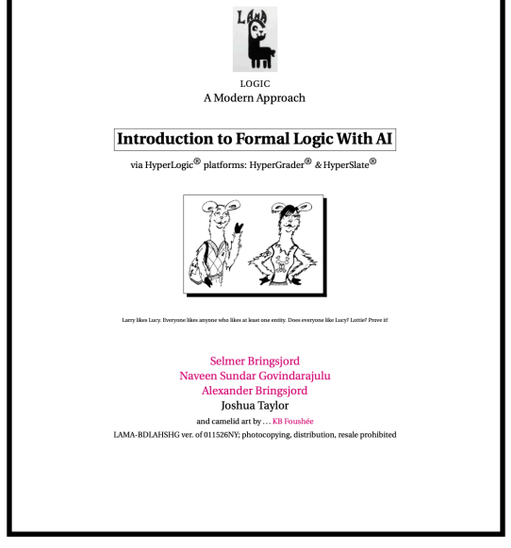
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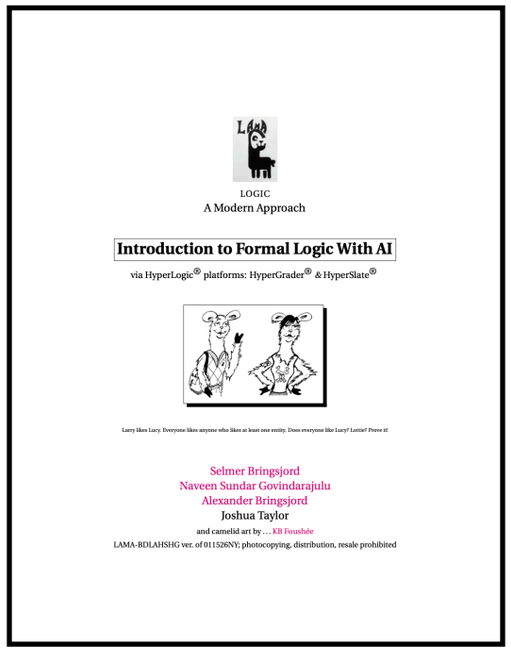
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0 Introduction

1 AI Today: Statistical/Numerical Hegemony, & Its Deficiencies

2 How Did We Get Here?

- Whirlwind History of AI: Two Horses
- The History of Computational Logic & Logic-Based AI (Aristotle, Leibniz, Church, Turing, Gödel, 21st-century automated reasoning)

3 What is Logic-Based (= Logicist) AI?

- Logic (incl. the full universe of logics, from Aristotle to today)
- Computation
- Logic + Computation = Computational Logic
- AI, Key Parts for Present Purposes
- Computational Logic + AI's Key Parts = Logic-Based AI
- On AI in Relation to Logic in The Human Mind (incl. cognitive science of human/human-level reasoning & decision-making)

4 The Main Areas of Logic-Based AI

- Automated Reasoning
- Automated Planning
- Automated Learning (including Tsetlin machines[1])
- Knowledge Representation/Engineering; Ontologies
- Structured/Relational Data and Data Querying
- Formal Verification
- Machine Ethics
- Logicist Theories of Artificial and Natural Intelligence (incl. Legg-Hutter from the statistical side of AI; AGI (**a**rtificial **g**eneral **i**ntelligence); ASI (**a**rtificial **s**uper**i**ntelligence))
- "Big Questions" (incl. The Singularity, Human Disemployment, and Consciousness)

5 Logic Programming

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Preliminary Orientation

(Syllabus Discussion & Content Start: Mon Aug 31)

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Department of Cognitive Science
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Lally School of Management & Technology
Rensselaer Polytechnic Institute (RPI)
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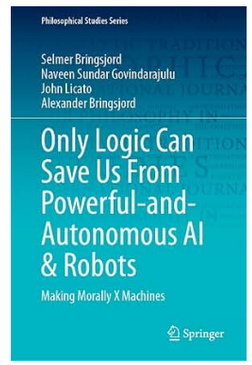
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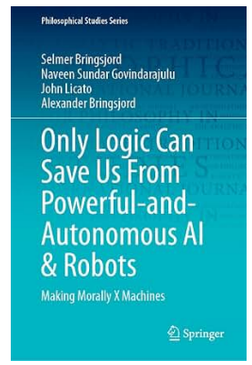
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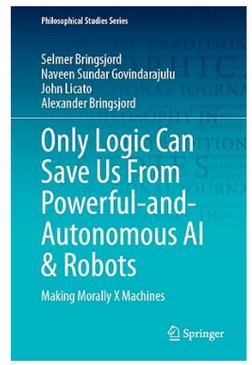
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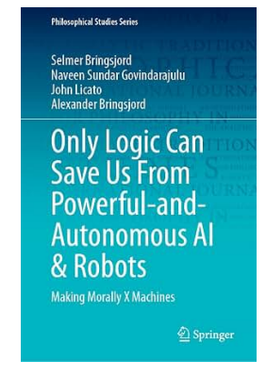
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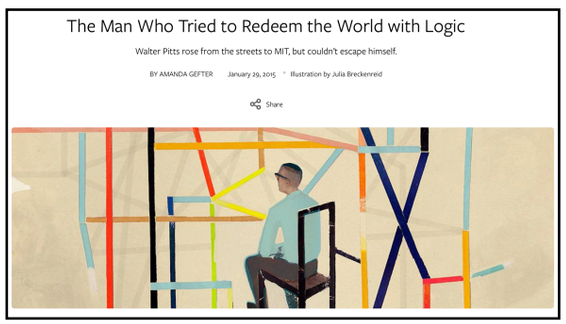
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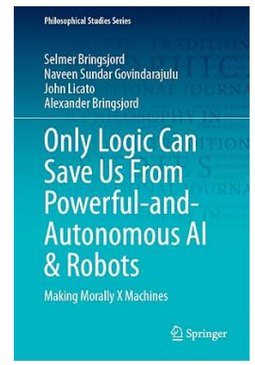
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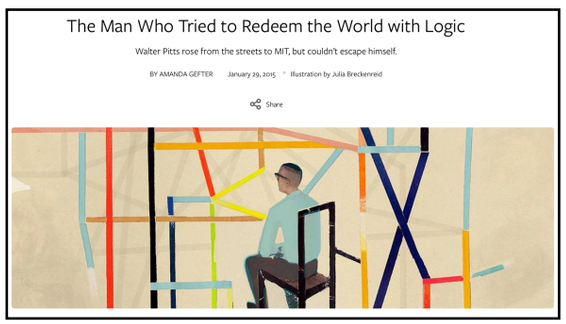
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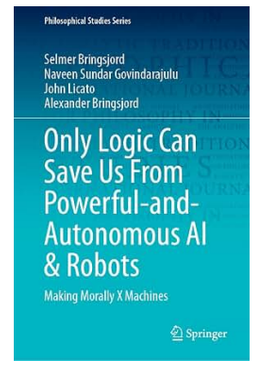
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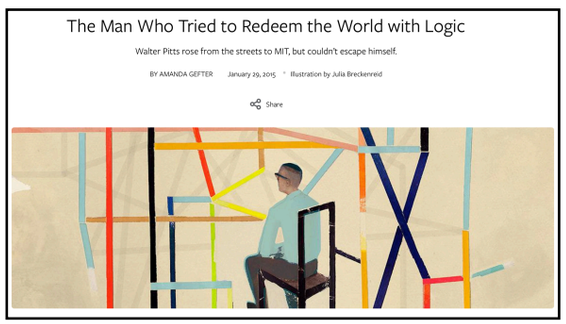
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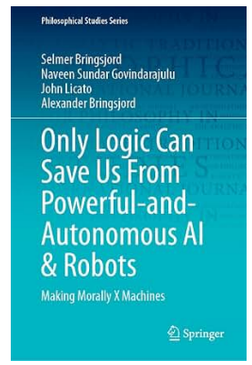
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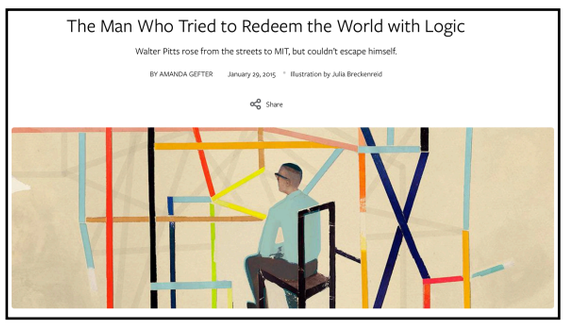
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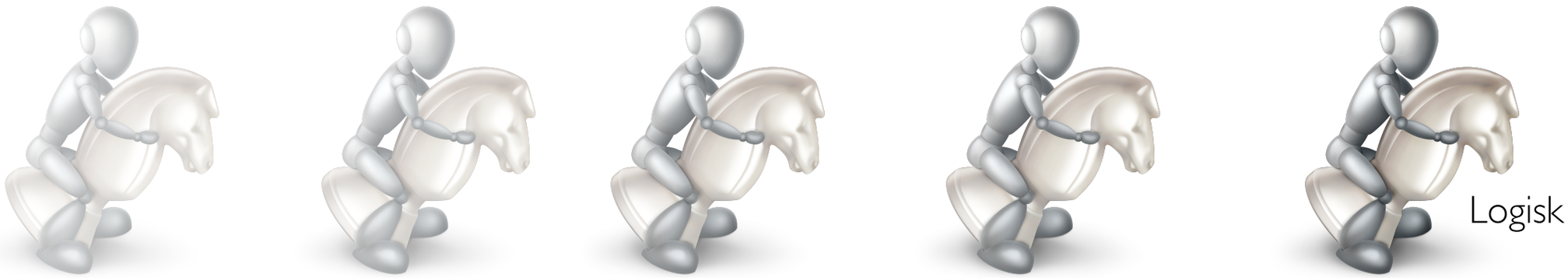

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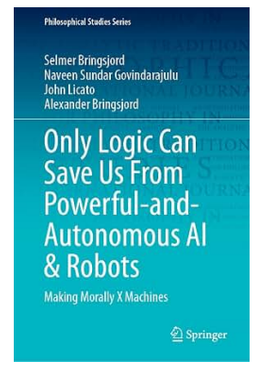
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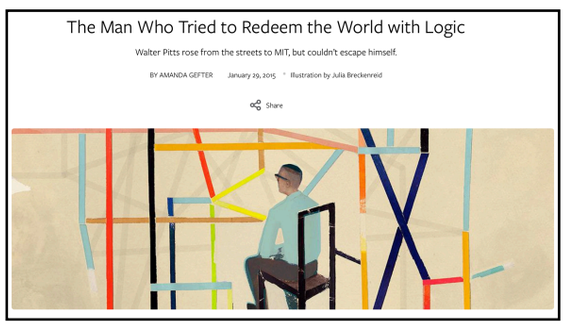
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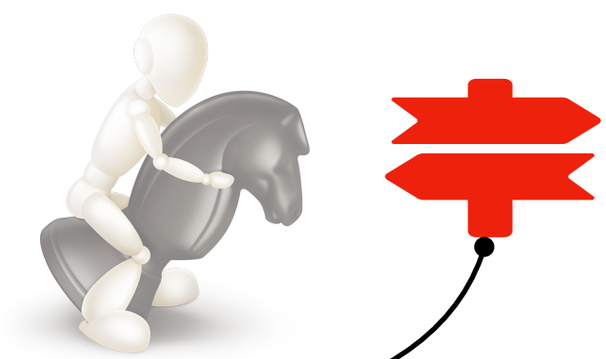
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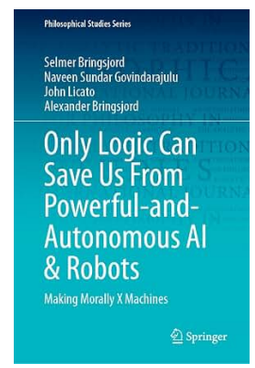
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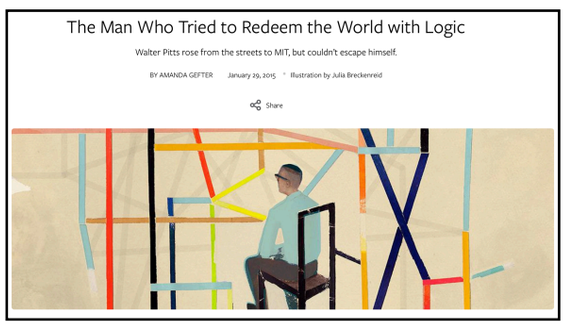
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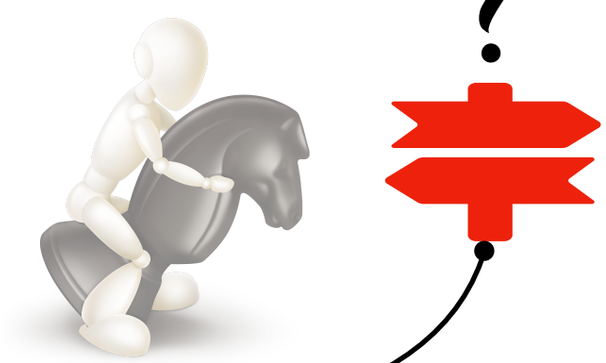
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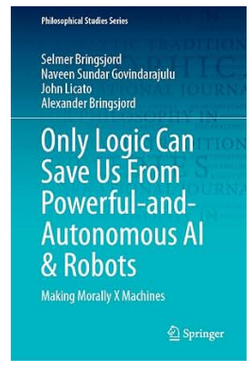
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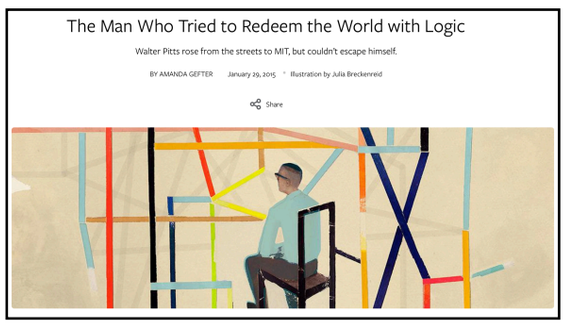
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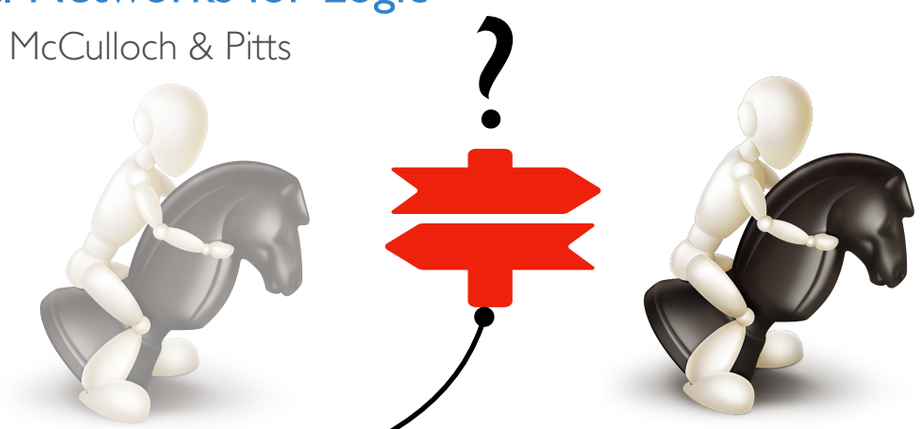



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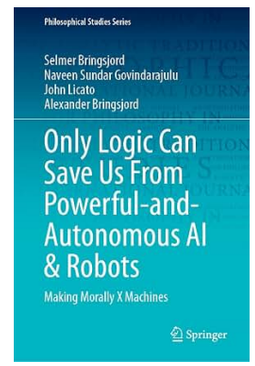
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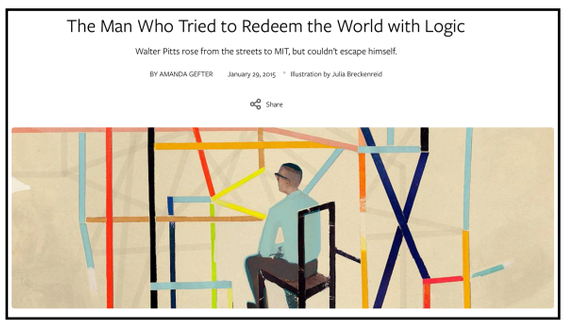
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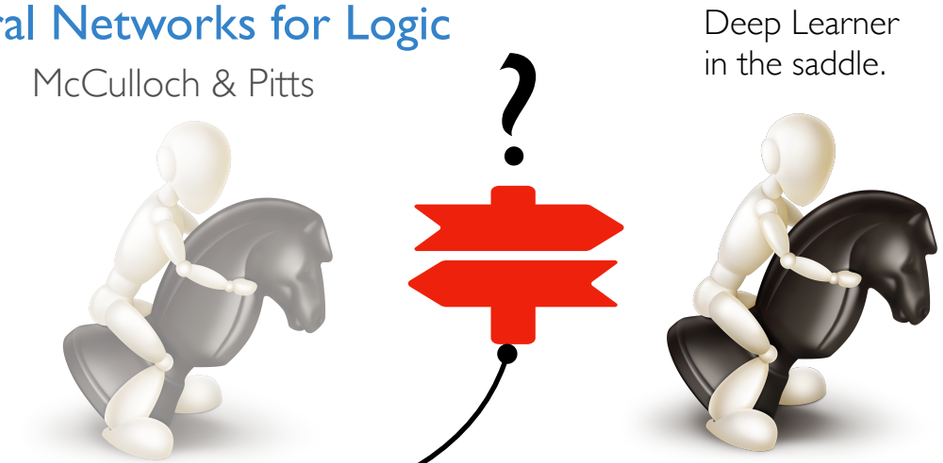
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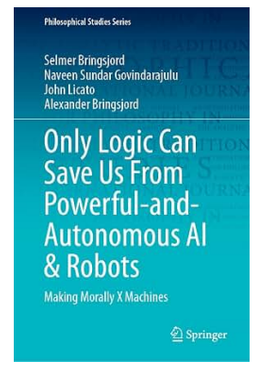
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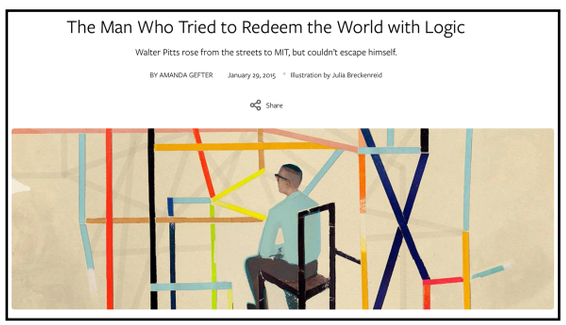
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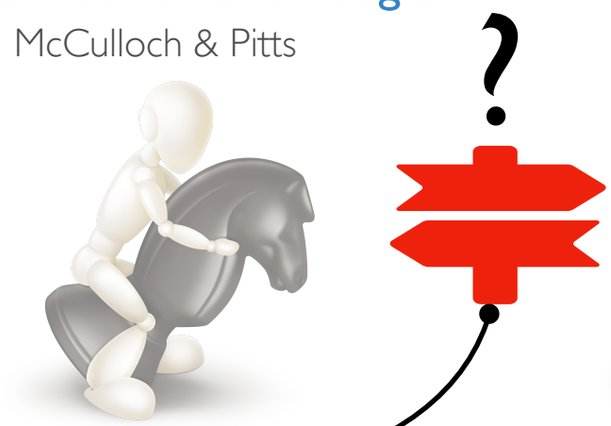
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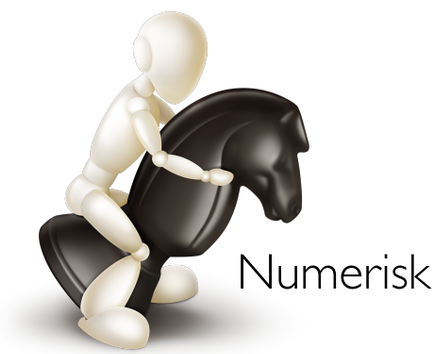
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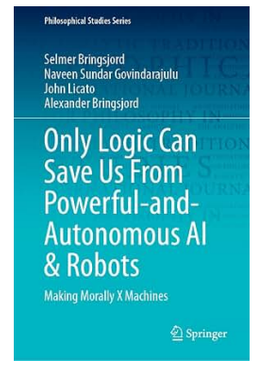
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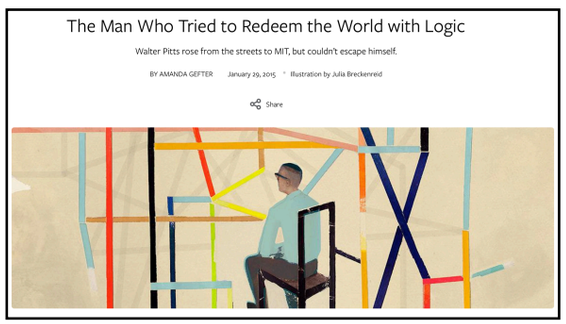
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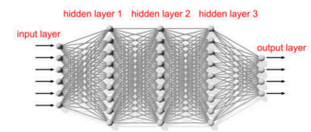
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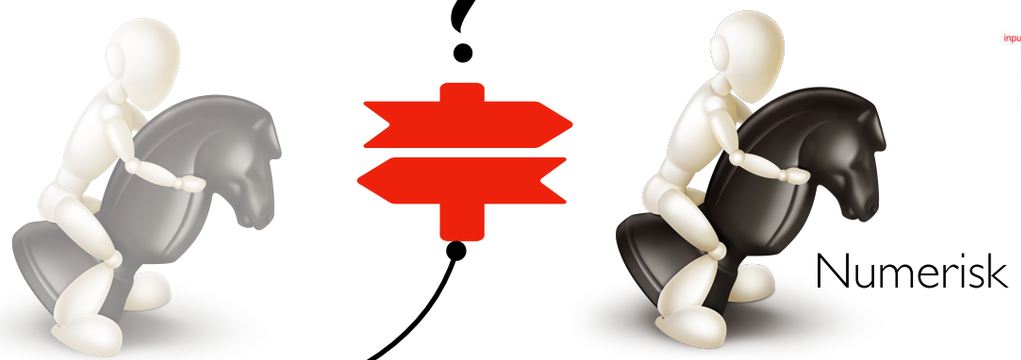
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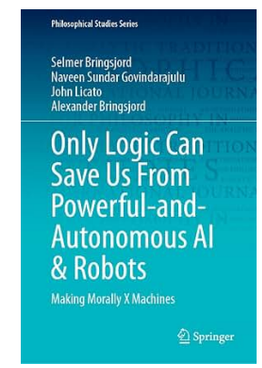
1956

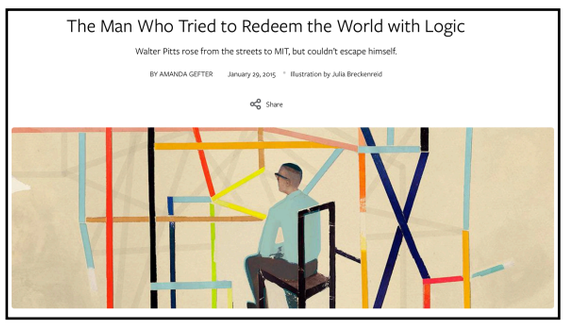
OLCSU

Only Logic Can Save Us, i.e. only Logisk can save us.

2026

"Danger, Will Robinson!"





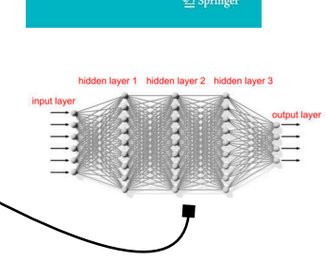
Neural Networks for Logic

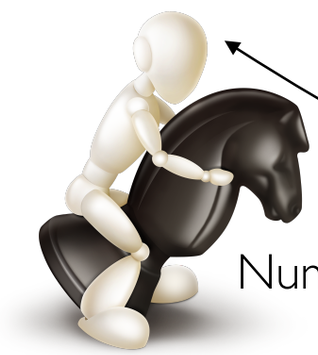
McCulloch & Pitts



?

Deep Learner in the saddle.





Numerisk

Unfortunately, AI's Great Divorce …

Important Practical Point of the ILBAI Class: Where the Jobs and $ Are in Workforce!



Logical AI

Numerical AI

One** crucial source for our learning AI is …

The Cinematic Arts

**Another crucial source of first-rate journalism.

One** crucial source for our learning AI is …

The Cinematic Arts

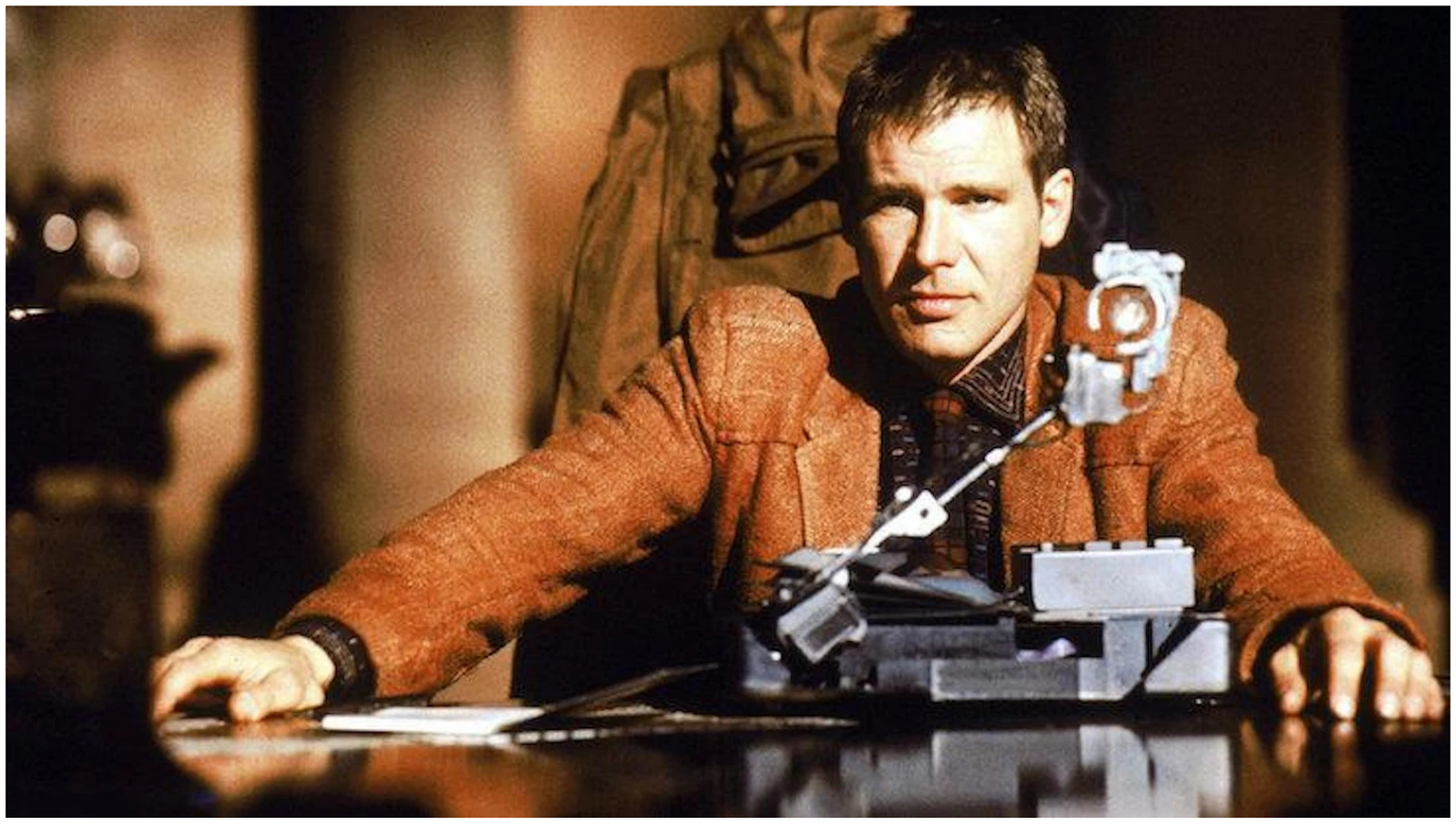
We must, & will, watch, ponder, and discuss belletristic sci-fi films about AI.

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**Another crucial source of first-rate journalism.

“Contract”

“Contract”

- You …

“Contract”

- You …
  - will (hopefully) have fun;

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- You …
  - will (hopefully) have fun;
  - will acquire knowledge of, and basis for thoroughness in, two-horse AI;

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- You …
  - will (hopefully) have fun;
  - will acquire knowledge of, and basis for thoroughness in, two-horse AI;
  - will earn a grade of A; but you must:

"Contract"

- You …
  - will (hopefully) have fun;
  - will acquire knowledge of, and basis for thoroughness in, two-horse AI;
  - will earn a grade of A; but you must:
    - attend class;

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One Relevant Movie …



ILLUSTRATION: RACHEL MENDELSON/WSJ, ISTOCK (5), ERIC LEE/BLOOMBERG

TECH

Sam Altman's Worldcoin Is Battling With Governments Over Your Eyes

More than a dozen jurisdictions have either suspended the project's operations or looked into its data processing

By Angus Berwick

One Relevant Movie …



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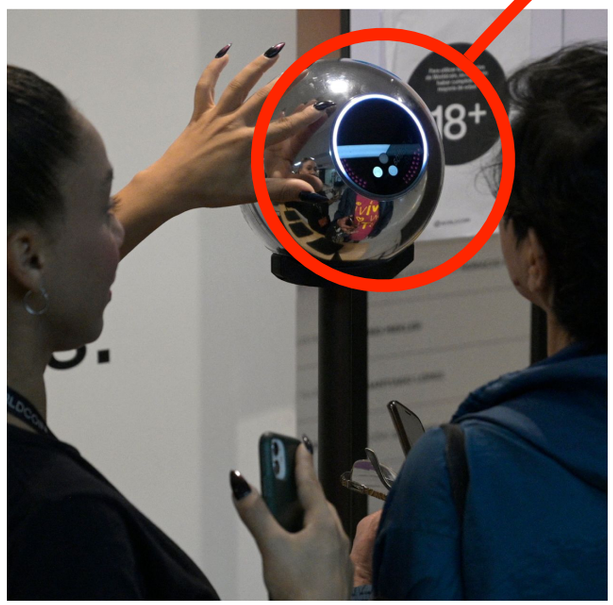
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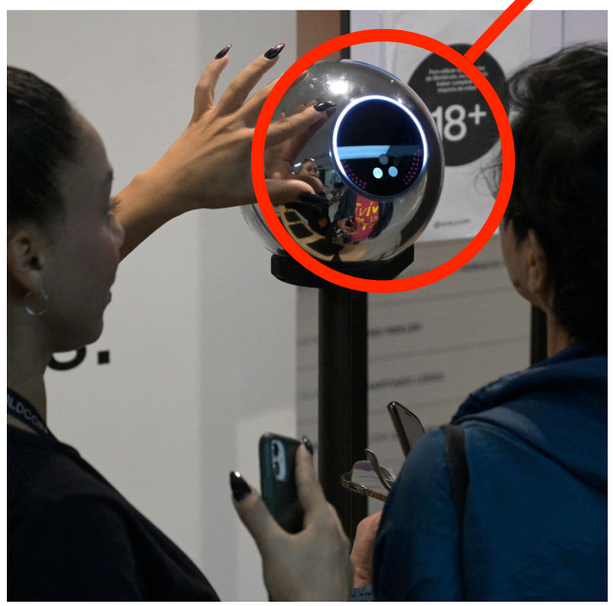
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Coming Assignment: Watch *original* Blade Runner (D'sC if at all possible) film. Read one or two serious articles in the media about about Worldcoin (now "World"). We will discuss down the road …