Safe and Secure AI

Third Wave of AI, how do we design and operate it to exist harmoniously amongst humans

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May 2018

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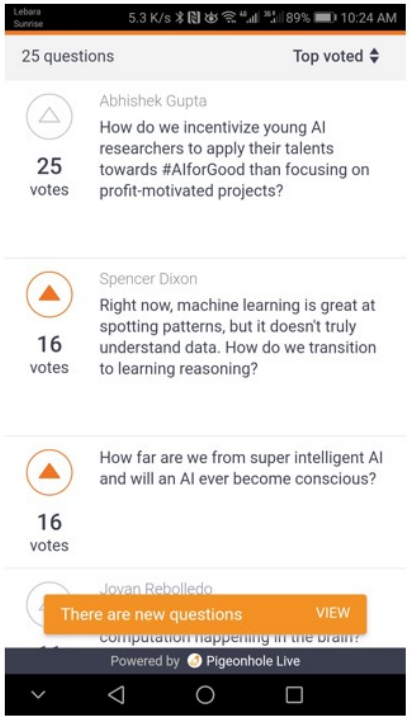
Opening Keynote (Roger Penrose)



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View Points as:

President & CEO of a Technology Consulting Firm (Catronic Enterprise)

Senior Utility Consultant of Global Consulting Firms (Accenture, Capgemini, Sheffield Scientific)

Senior Technology Executive of large corporation (OPG)

Venture Capitalist (REDDS Venture Investments)

Keynote Speaker of International Conferences (Digital Africa, World CIO Forum, World Computer Congress, FinTech Ideas Festival, UN AI for Good Summit, UN Telecom World)

Board Chair of International Professional Organization (IEEE CS, FEAPO). Recipient of multiple IEEE Awards.

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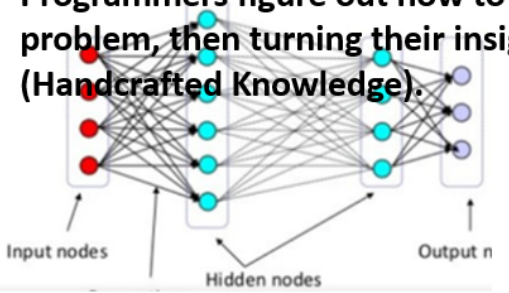
What is the Third Wave of AI?

First Wave

Traditional Programming

Second Wave

Neural Nets – Deep Learning



The Third Wave

Neural networks (ML and DL) able to properly digest big data resulted in narrow disciplines like game playing, automated driving, image recognition, text to speech to text (Statistical Learning).

Programmers figure out how to solve a particular problem, then turning their insights into code (Handcrafted Knowledge).

The AI systems themselves will construct models that will explain how the world works (Contextual Adaptation).

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Use Case: Mind AI

- New Symbolic Paradigm
- Natural Language Reasoning
- Augmented Topological Network
- Linear, qualitative reasoning process
- Human understandable logic
- Don’t need tons of data and can run on a regular laptop
- Transparency of operation
- Any language
- Universal

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Introductions to Mind AI

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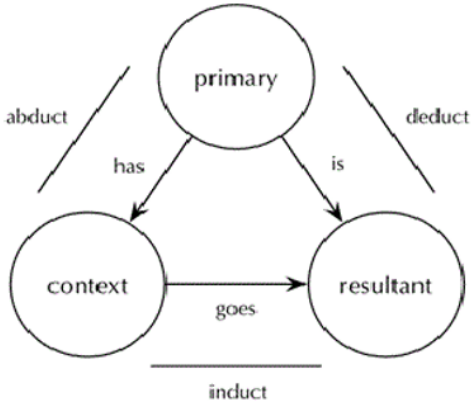
Canonical Model



Induct

- Mind AI offers an entirely new approach to AI. Rather than building an architecture that requires parallel processing, supercomputers, and large amounts of data.
- Mind AI built its core reasoning engine based on an internationally patented, completely new data structure that they call a **canonica**l.

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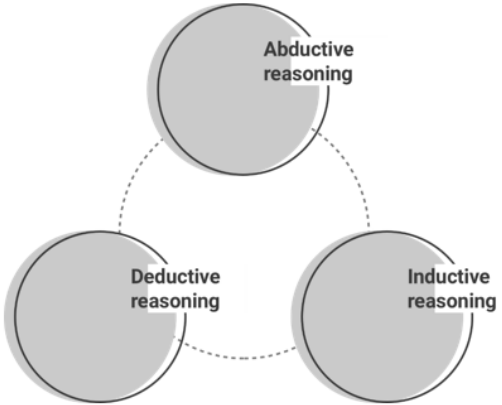
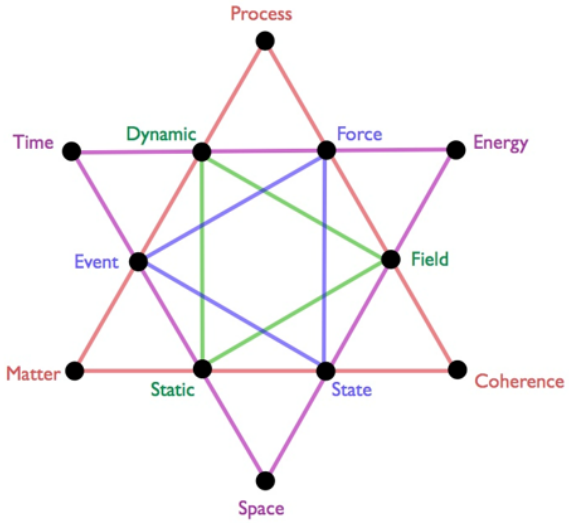
What is REASONING?



Reason is the capacity for consciously making sense of things, applying logic, establishing and verifying facts, and changing or justifying practices, institutions, and beliefs based on new or existing information.

Reasoning is associated with **thinking, cognition, and intellect**.

Ontology Versioning



- The essence of Ontology Versioning is taking existing knowledge and contextualize them as deprecated.
- For example, General Relativity is a new idea of gravity, and it succeeds Newton's Law.
- Mind AI's ontology database claims to be comparable to a 7 year old today.

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Metatherotics

- **Critical Mass** - When Mind reaches Critical Mass, it will be able to go out and accumulate knowledge on its own.

- **Metatheoretics** - This is when Mind will be able to create its own original theories, essentially coming up with its own hypotheses and experiments in any domain. This will allow humanity to utilize the power of Mind to pursue a new level of prosperity.

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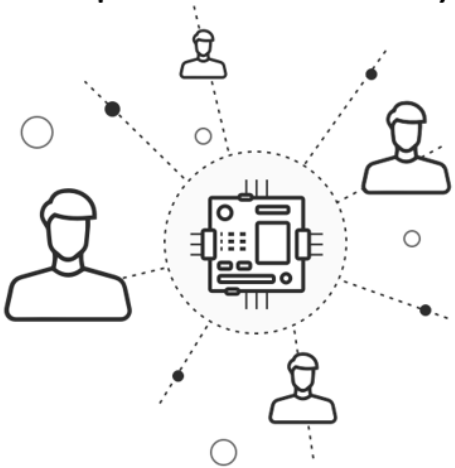
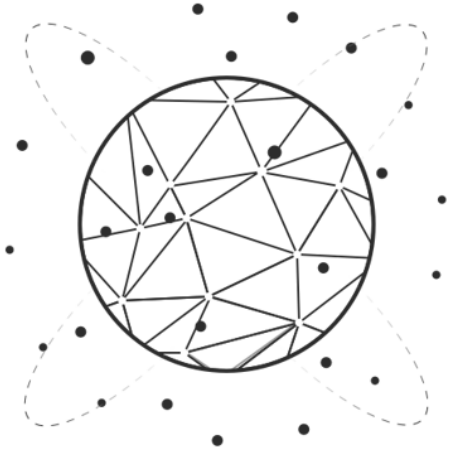
Open and Democratize

Open-source the Mind engine so that it will be readily accessible to the global development community.





Return the power of AI to the people and **democratize** this tool that can help humanity solve the most pressing issues.

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AI Accountability, Responsibility, Transparency

- EU Parliament formal resolution 2017
- Stanford project “100 Year Study”
- BSI8611 ethics design and application robots
- ACM 7 Principles
- IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems

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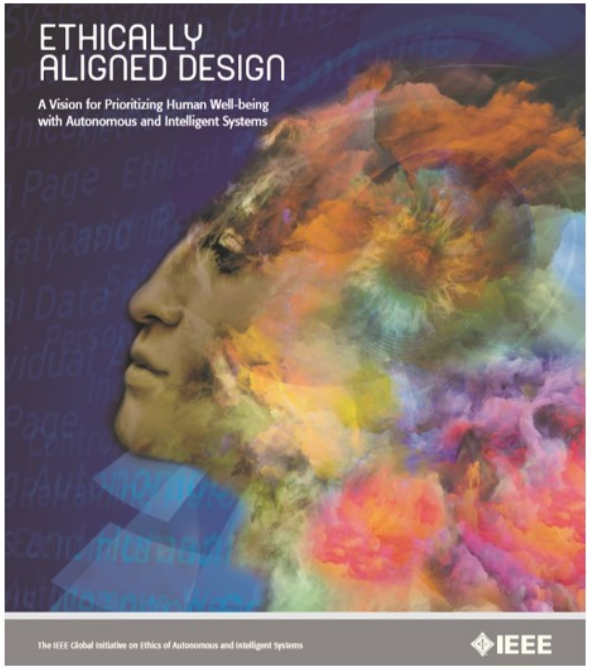
IEEE Global Initiative – Request for Input



- A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems.
- Several hundred participants from six continents, who are thought leaders from academia, industry, civil society, policy and government.
- Facilitate the emergence of national and global policies that align with these principles.

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Cybersecurity and AI Risks

Training and Education for future citizens and workforce.

- Fraud detection: Credit cards?
- Speech recognition: Chatbots, Robo Advisors?
- Image/video recognition: Airports, Policing, Social Media?
- Autonomous vehicles: Cars, trucks, drones?
- Robots: Factories and Consumer facing?
- Data, security, privacy, trust?

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Thank you

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