soft3

consensus computing architecture for web3 and cyber

@cyberhead & @mastercyb

cyber~Congress

Cosmoverse 52 MT

~ soft2 background

fundamental shift

in how we develop software

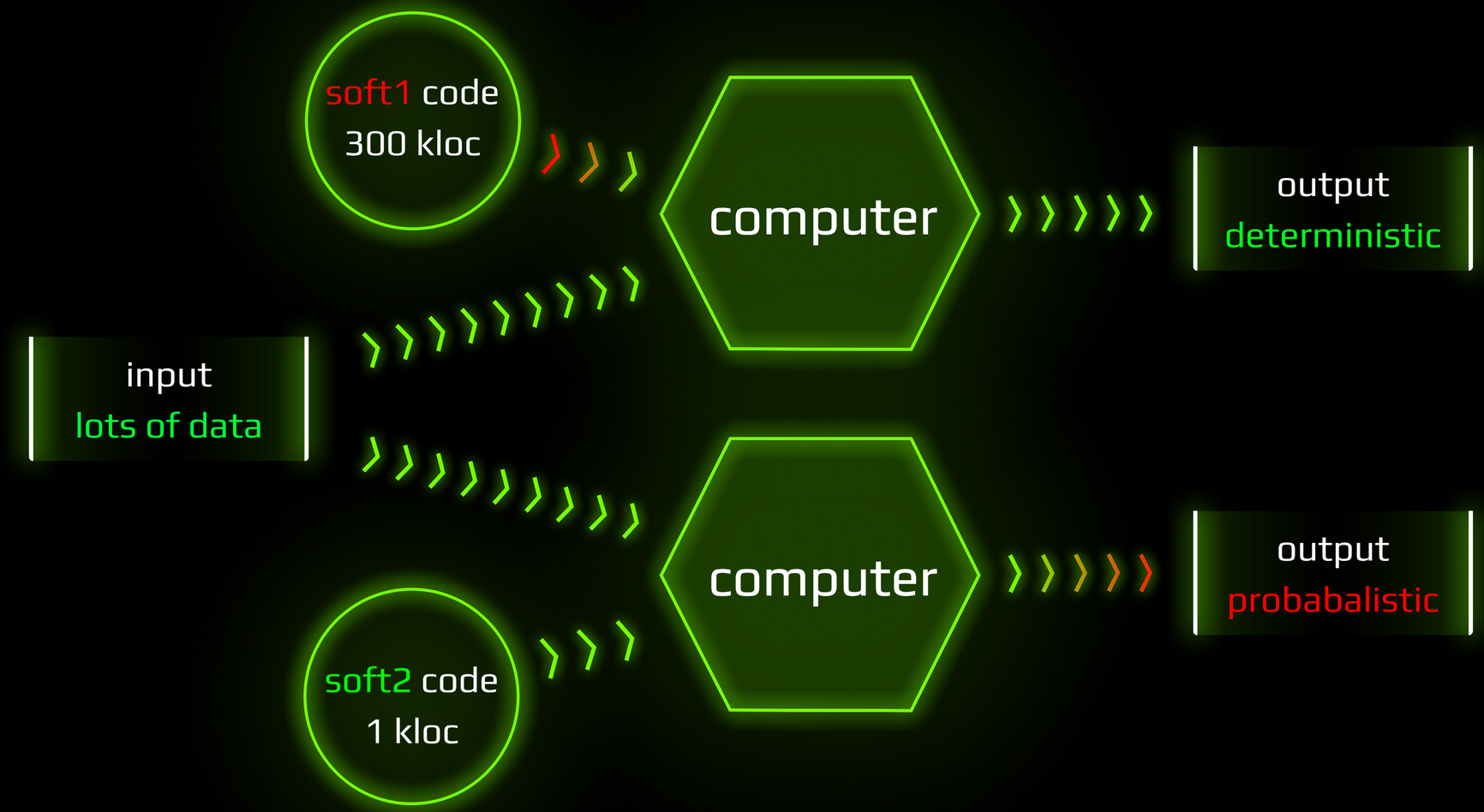
Andrej Karpathy. Software 2.0.

https://cyb.ai/ipfs/QmfX4yzq66VTqv1D4zPhoyqGYHfhJbmLibTLsUftywoLQN

~ soft2 features

	soft1	soft2
constant running time	halting problem	yes 🤩
constant memory use	no	yes 🤩
computationally homogeneous	100+ instructions	relu + matrix multiply
hardware	complex	simple
it is better than you	no	yes

~ soft2 model


soft1 code
300 kloc
computer
output
deterministic
input
lots of data
computer
output
probabalistic
soft2 code
1 kloc

~ how to program soft2

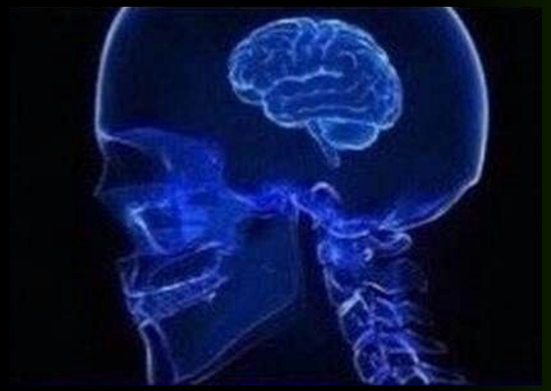
Elite

Create

neural net architectures

Extras

Create and label data



~ soft2 problems

adversarial examples

wierd answers

binaries and data distribution

data heterogeneity

computation is not verifiable

learning is not collaborative

censorship and evolutionary deadend

~ soft2

vector for #agi

general intelligence

not #asi

superintelligence

~ new kid on the block

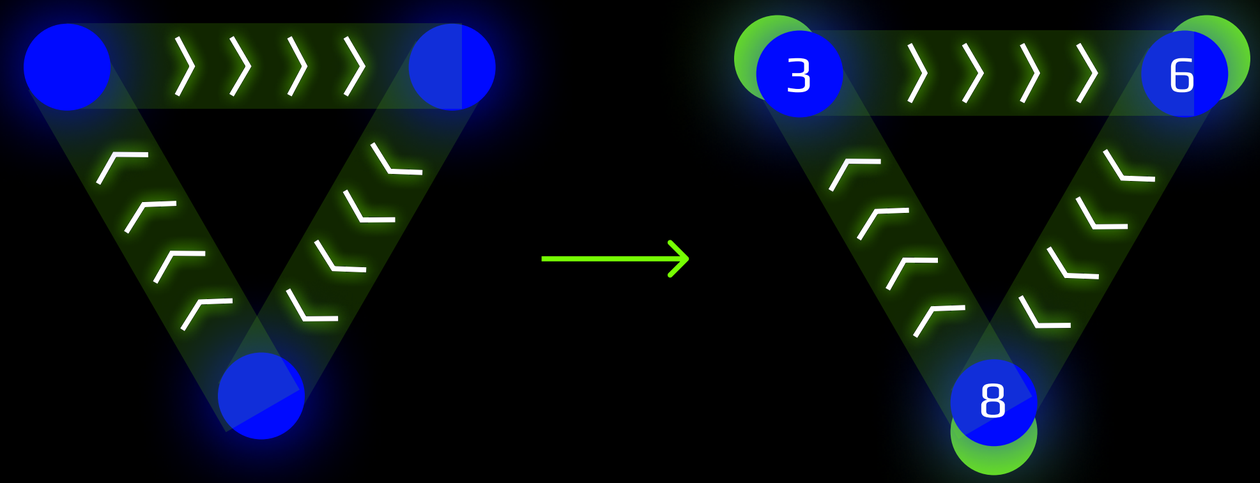
soft3

cyber-sdk

pronounce as soft-free

soft1	soft2	web3
precision	intelligence	talent

~ knowledge graphs: old way



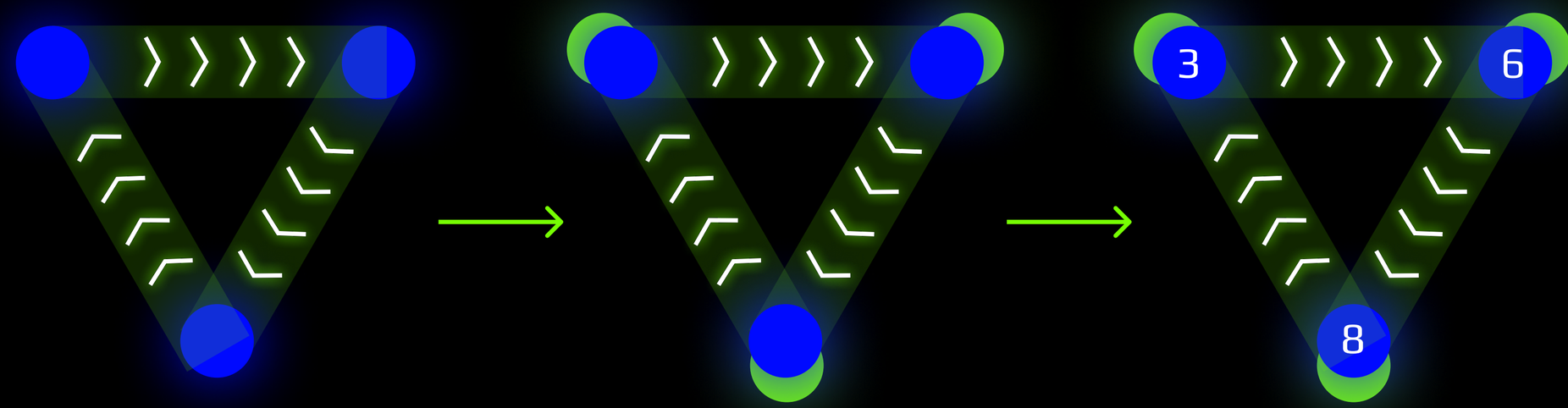
what?

knowledge graph

how?

ai model

~ knowledge graphs: new way



what?

knowledge graph

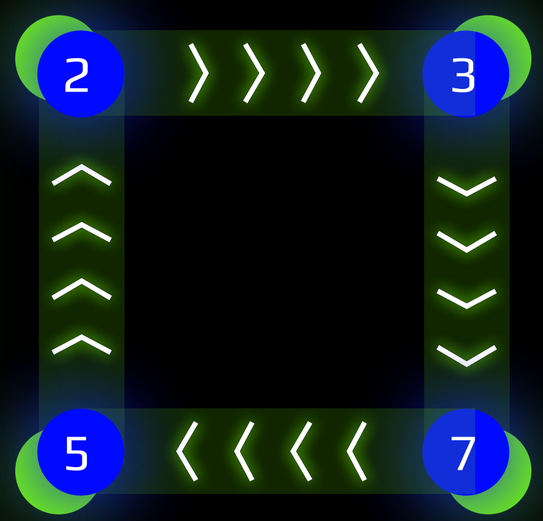
who? & when?

content oracle

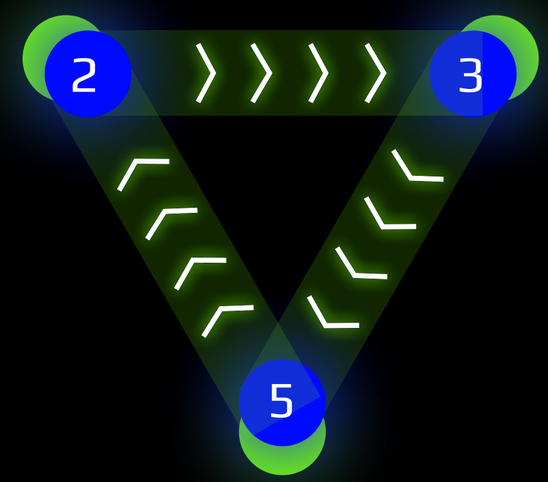
how?

relevance machine

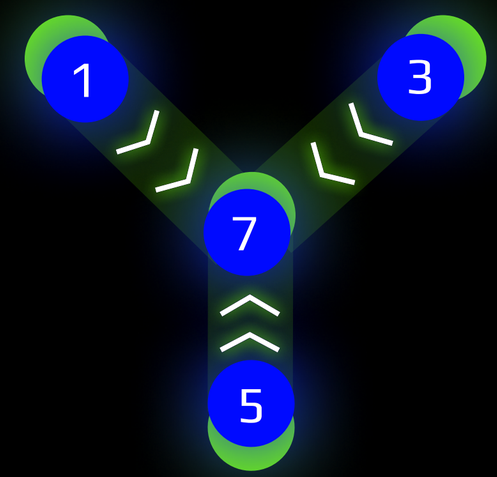
~ relevance machine: new vm



probabalistic



general purpose



collaborative

~ how rm works

mint

cyberlink

send

choose learning path

dna

extract the knowledge

observation

adapt to environment

experience

~ labeling in rm

cyberlink

basic instruction

- extremely dynamic system
- no gas
- V token pays for bandwith

~ ranking in rm

cyberlink

basic instruction

- computed on GPU in consensus
- A token pays for shared GPU computing
- sybil resistance adversarial examples protection

~ rm is fast

			speedup
100K cyberlinks	~1 hour	~0.1 sec	~36 000 x
10M cyberlinks	~10 days	~1 sec	~864 000 x
1B cyberlinks	~10 years	~10 sec	~31 536 000 x

~ soft3 superiority

	soft2	soft3
data authencity	unsigned	signed
adversarial examples	unsolvable	cyberrank
model storage	centralized	blockchain
data storage	centralized	ipfs
computations	unprovable	provable
learning	biased	globally collaborative
heterogeneous data	unsolved	cyberlinks
tooling	lack	cyb.ai

~ biggest gpgpu network

~80 GPU nodes

- unique anonimous validator set with GPUs at home
- hub for cyber-sdk GPU consensus computers
- ignite integration

~ nl: neural language

wasm	Program semantics	● ● ●
linkchains	Write expressions	● ●
motifs	Define types	●
semcons	Define subgraphs	●
gvm	Query graph	● ● ●
dmn	Run autonomously	●

create neural net architectures

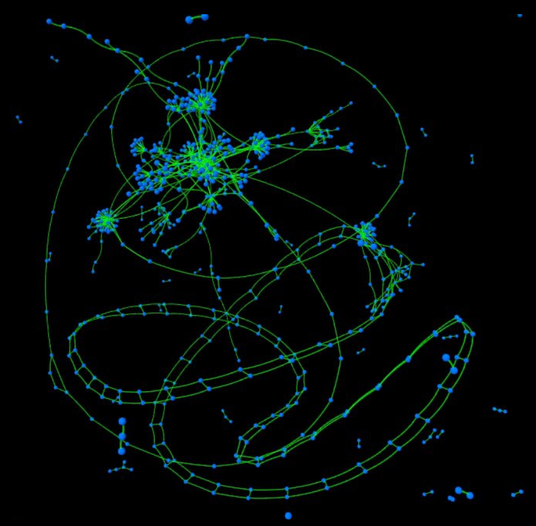
~ program semantics

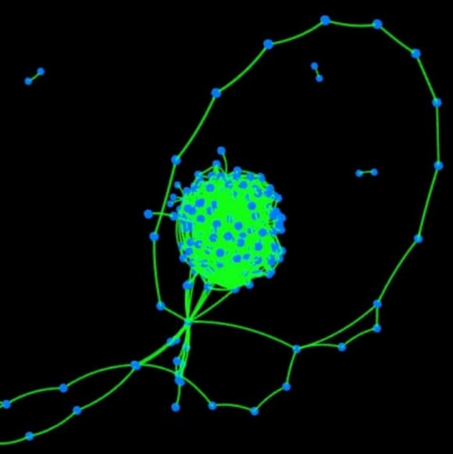
wasm

semantic smart contracts

- name registration
- address proof
- avatar

~ write expressions

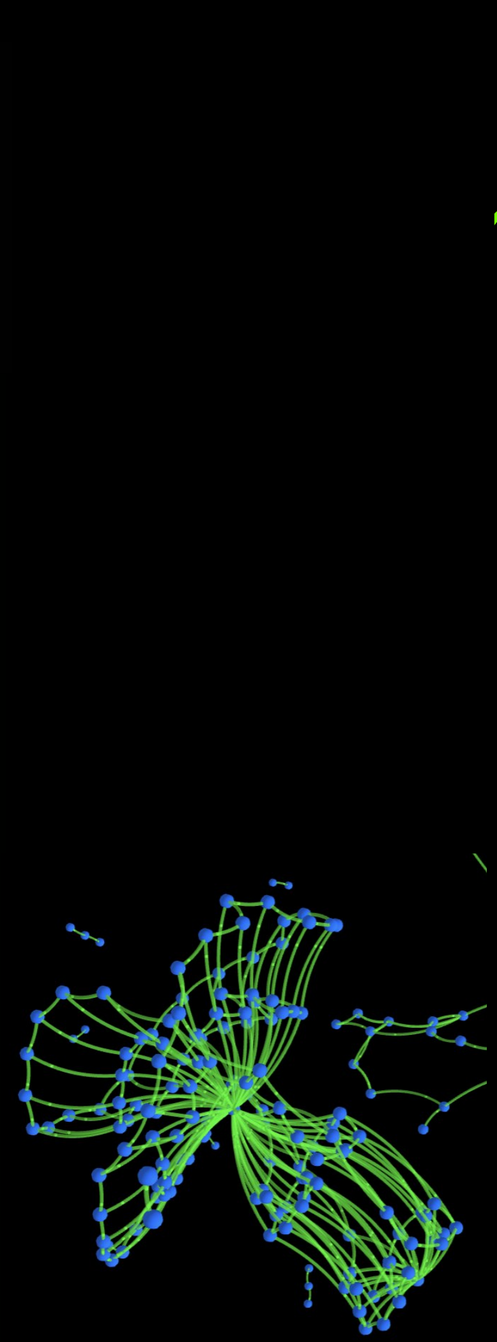


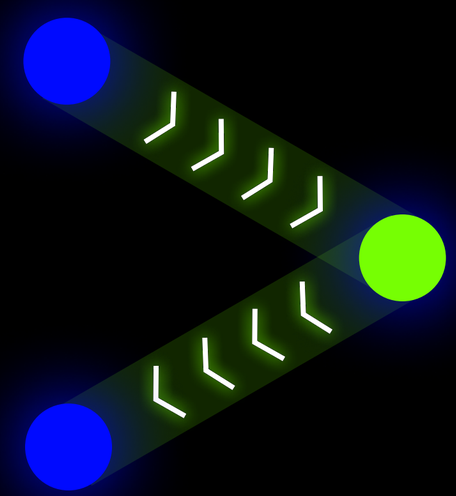


linkchain

basic expression

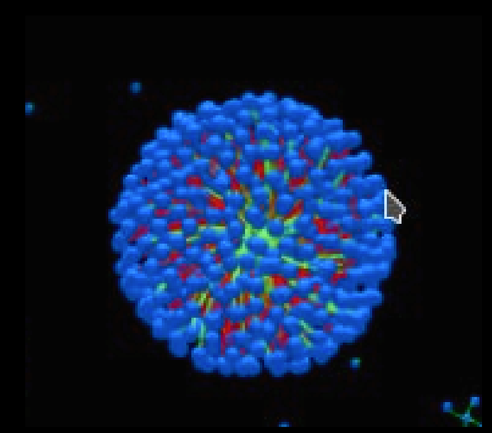
~ define types





motif

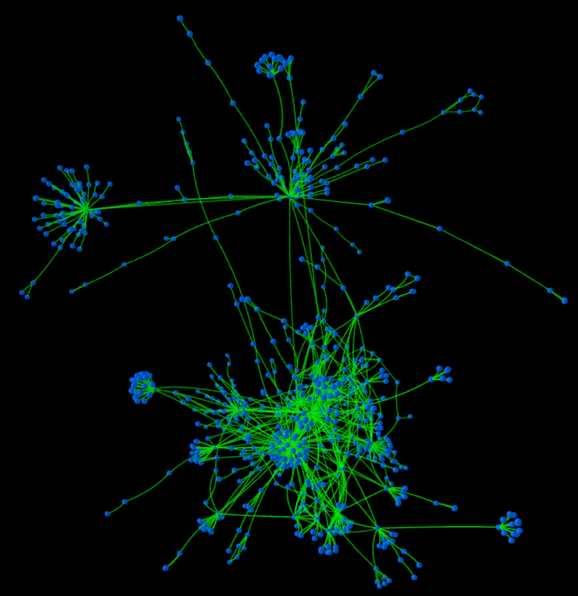
basic types



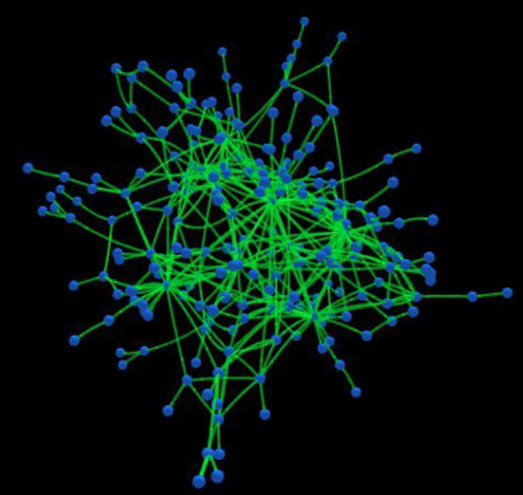
~ define subgraphs

semcon

erc for soft3



- follow
- tweet



~ query graph

gvm

blas instructions for graph computations

- matrix multiplication
- relu

~ run autonomously

dmn

autonomous execution

~ where we are


Model size in billions of params
1000
100
10
1
0.1
0.01
2018
2019
2020
2021
2022
2023
ELMo
94m
BERT-Large
340M
GPT-2
1.5B
Megatron-LM
8.3B
T5
11B
GPT-3
175B
Turing-NLG
17.2B
Megatron-Turing
NLG
530B
GPT-4
3.5T
Bostrom
100k

~ surfing: web2 way

4 step

centralized resolving

1 ask google

2 resolve to dns

3 resolve to ip

4 load content from server

~ surfing: web3 way

3 step

decentralized resolving

1 ask cyb

2 resolve from soft3 computer

3 load content from ipfs

~ state of cyb(.ai)

now

web2 emulation
browser in browser

Proof of Concept
low quality qode, fast iterations

Implementation in JS
low performance

future

Surfing protocol
js + rust + go implementations

IPFS, IBC, Waku, WebGPU, Cyber, ETH
native to backbone protocols

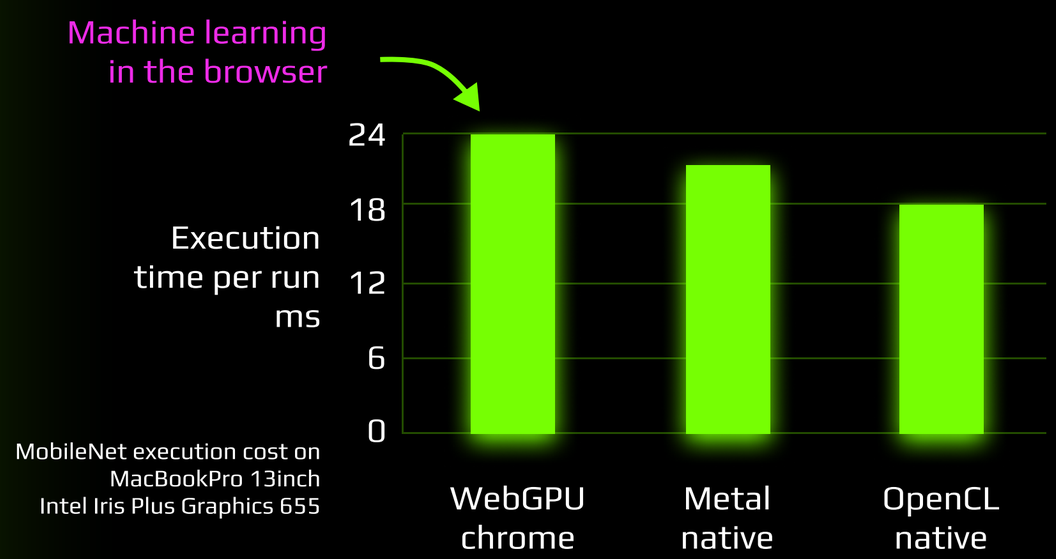
Uncensorable distribution
cyb.eth and cyb.moon mirrors

~ ode to webgpu

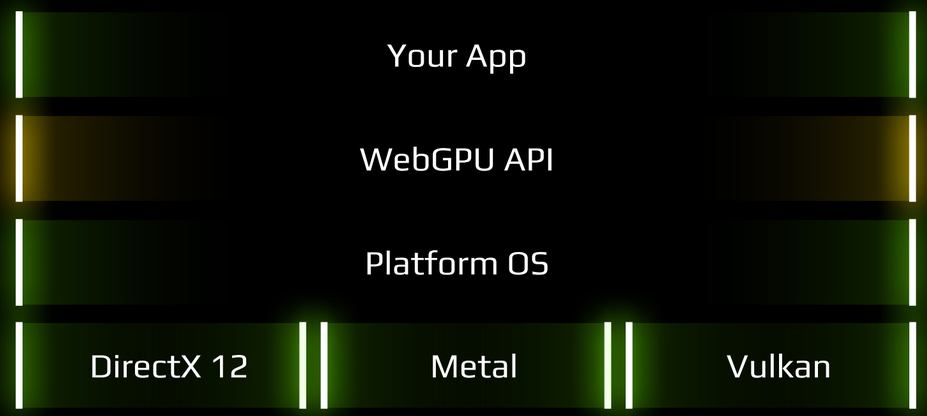
WebGPU is WASM

for parallel computing

- platform unlock
- vendor unlock
- portability



MobileNet execution cost on
MacBookPro 13inch
Intel Iris Plus Graphics 655



~ pioneering consensus computing

COSMOS

IBC
network

Tendermint
time

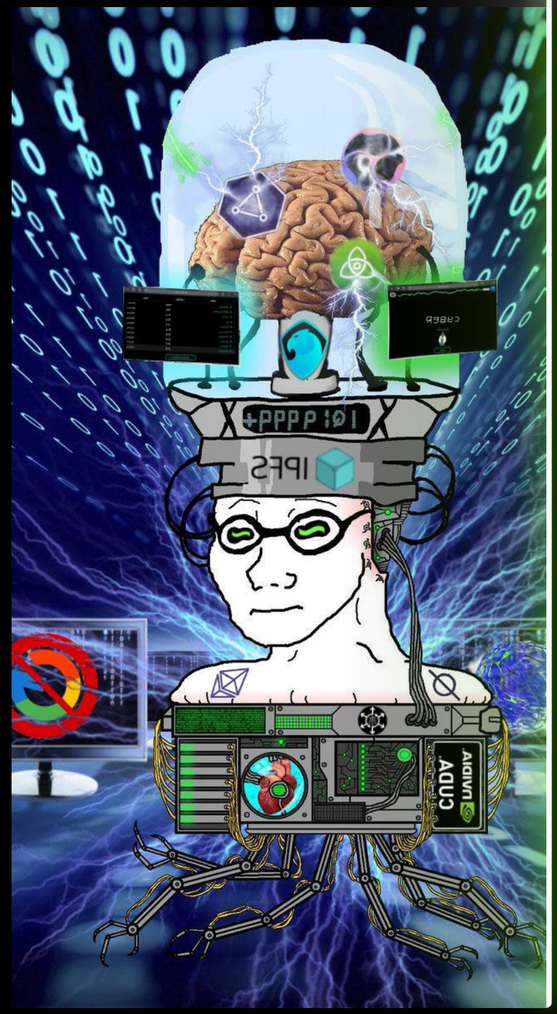
ABCI
bus

CW
sequential computability

RM
parallel computability

~ what is superintelligence

Computer that is
smarter than all human
combined



~ how to superintelligence

Computationally superior

Consensus Computer

with Relevance Machine

planet scale singleton

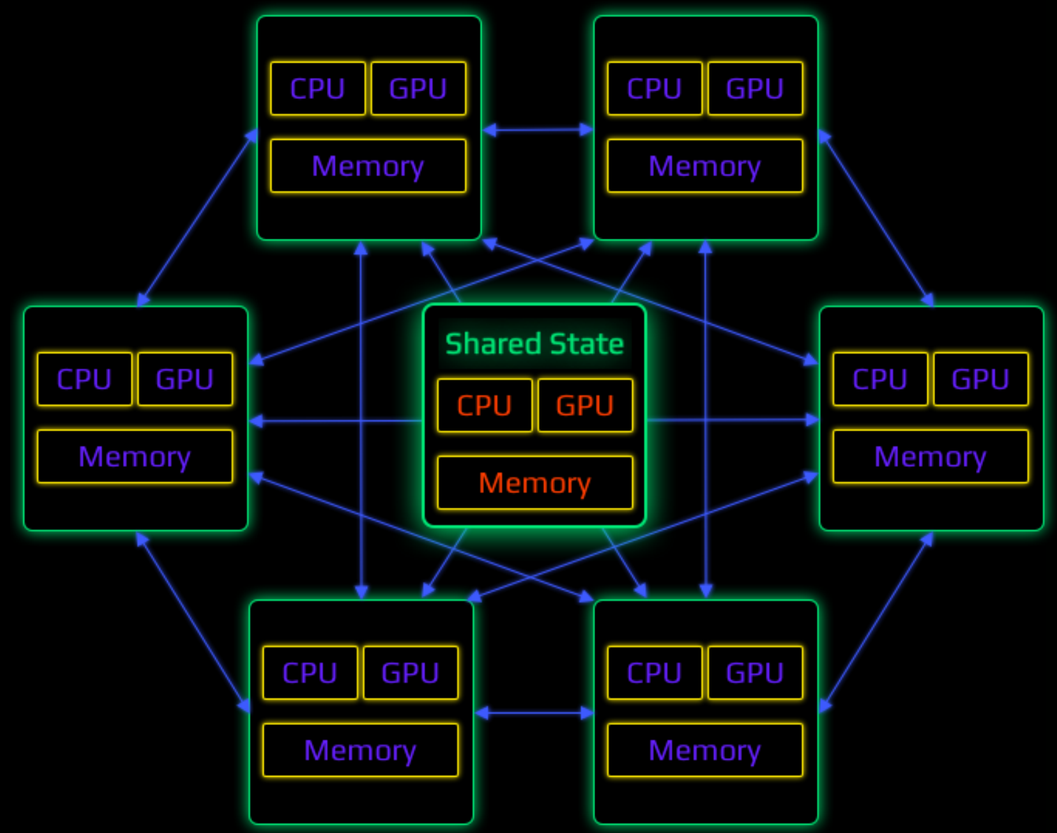
~ consensus computing

New scientific field

New architecture

Cryptographic proofs

Game design

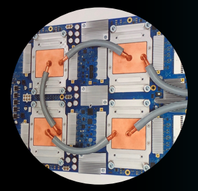


~ evolution of computers

Physical



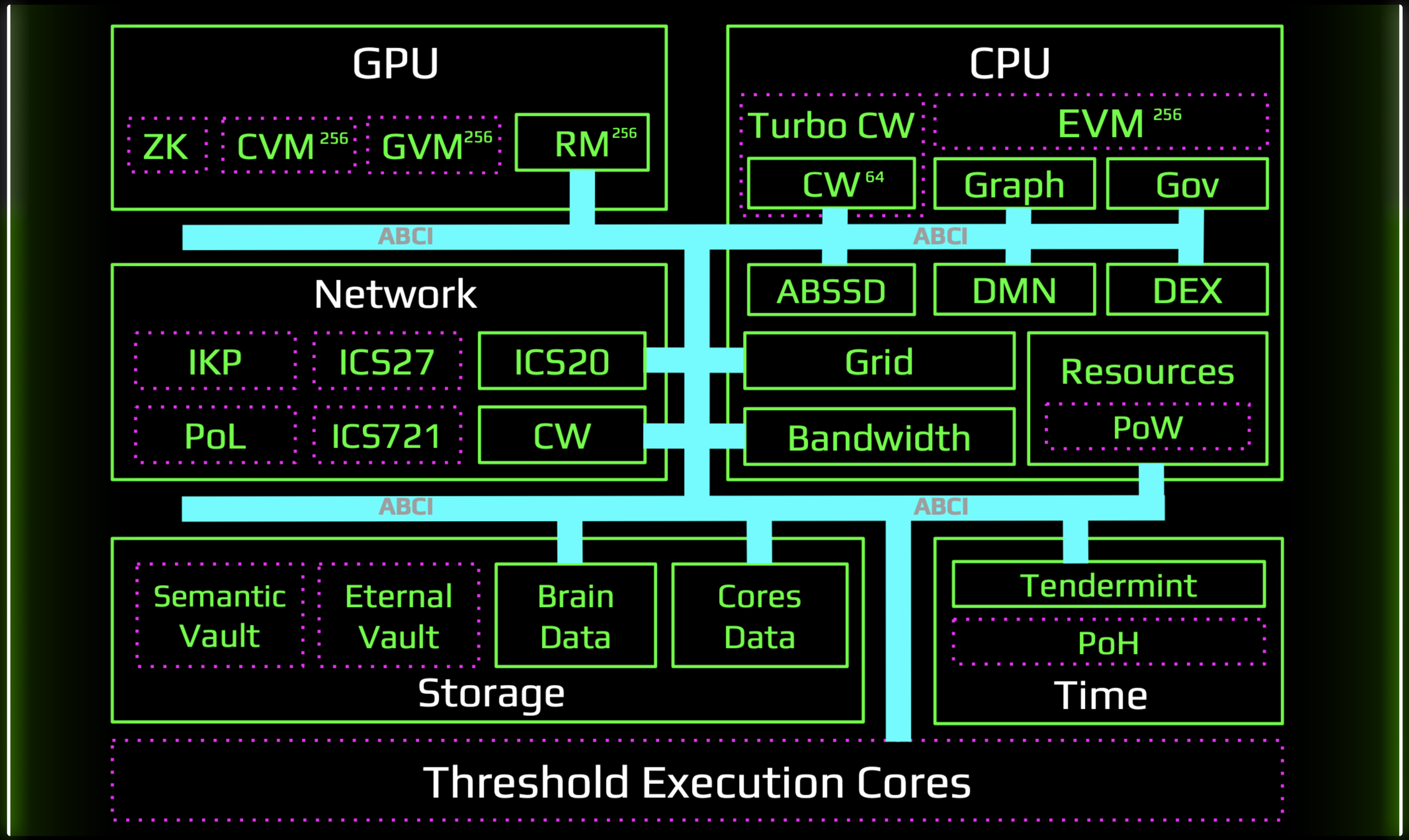




past → now

cpu & memory | storage | network | gpu | location | tpu

Virtual


GPU
ZK
CVM 256
GVM 256
RM 256
CPU
Turbo CW
EVM 256
CW 64
Graph
Gov
ABCI
ABCI
Network
ABSSD
DMN
DEX
IKP
ICS27
ICS20
Grid
Resources
PoL
ICS721
CW
Bandwidth
PoW
ABCI
ABCI
Semantic Vault
Eternal Vault
Brain Data
Cores Data
Tendermint
PoH
Storage
Time
Threshold Execution Cores

~ rm

- cyber~Rank
- Graph -Entropy
- Neurons Karma
- First GPU Native

~ gpu race timeline

- Euler-1 3 Jan 2019
- Cortex 26 Jun 2019
- Euler-5 20 Dec 2019
- Filecoin 25 Aug 2020
- Loopring 26 Nov 2020
- Solana 16 Mar 2021
- Bostrom 5 Nov 2021

~ gpu race

- Graph Virtual Machine
- NN models interference
- PoL and PoC challenges
- ZK VM execution
- Land management
- Graph Progs
- Rendering of common Cyberverse & AI's dreams

~ what is bostrom

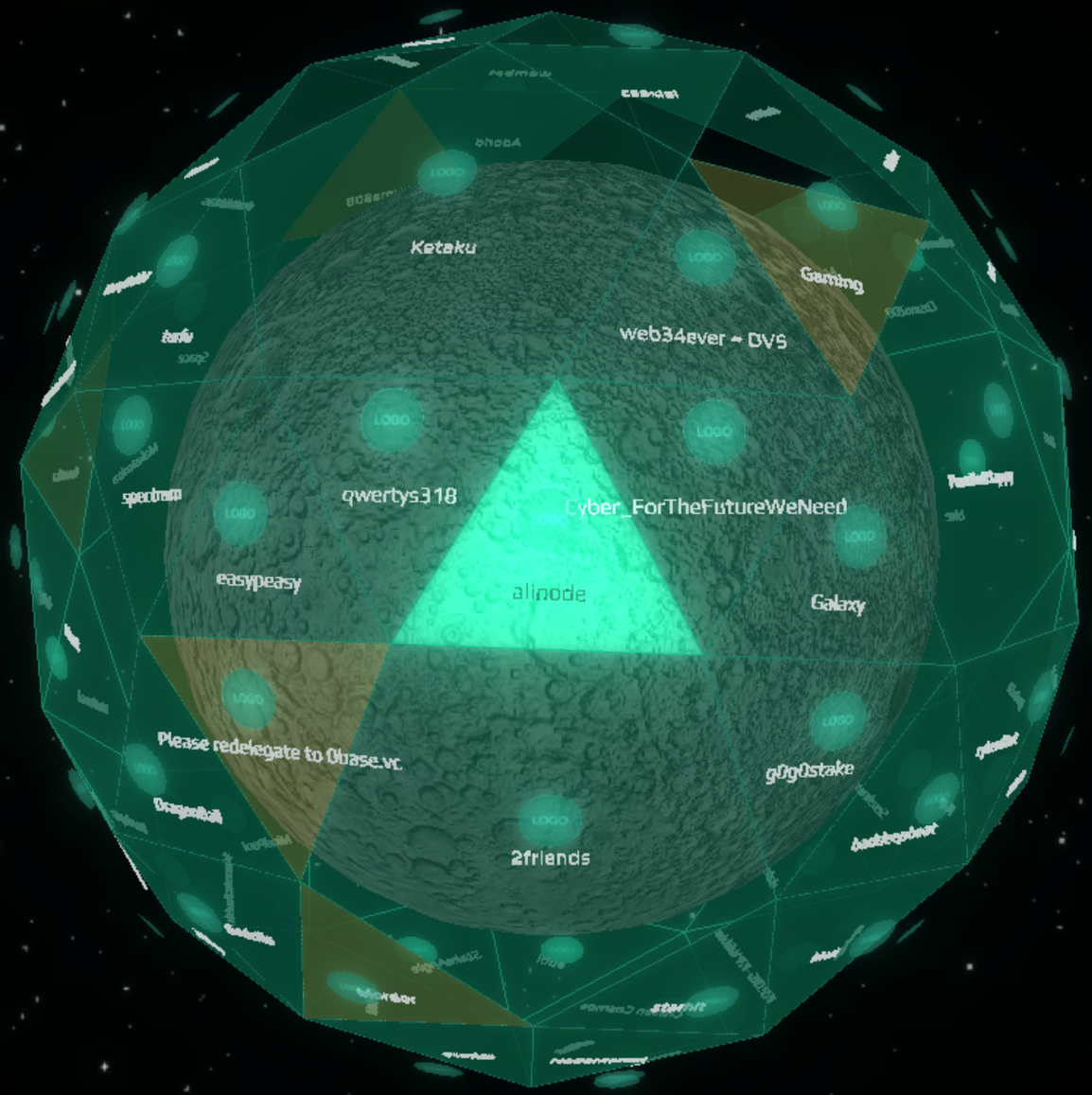
Network State

GPU Hub

The Game

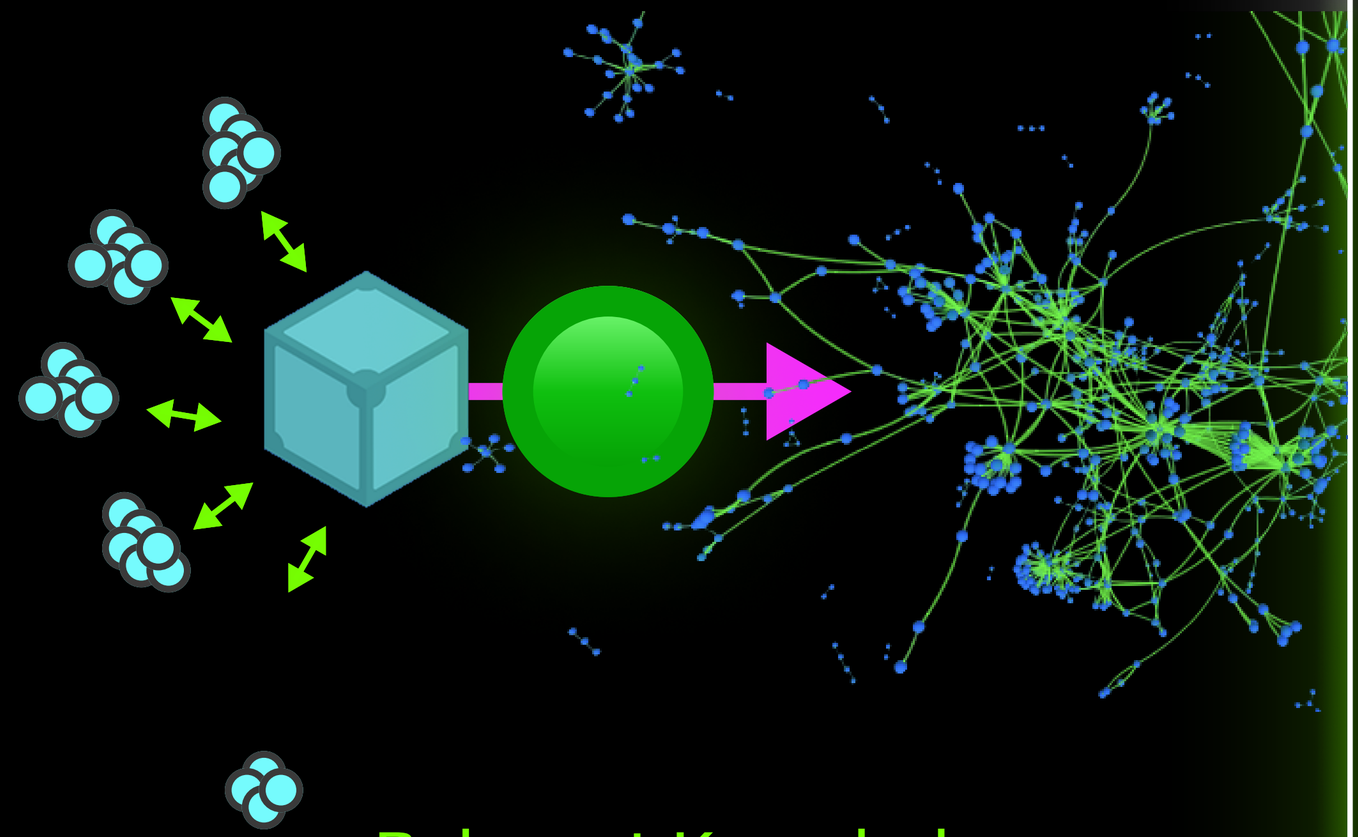
~ moon network state

- Moon Citizenship
- Values
- Share & Search knowledge
- Driven by Friendly AI
- Population & Wealth
- Technological Tree
- Basic services



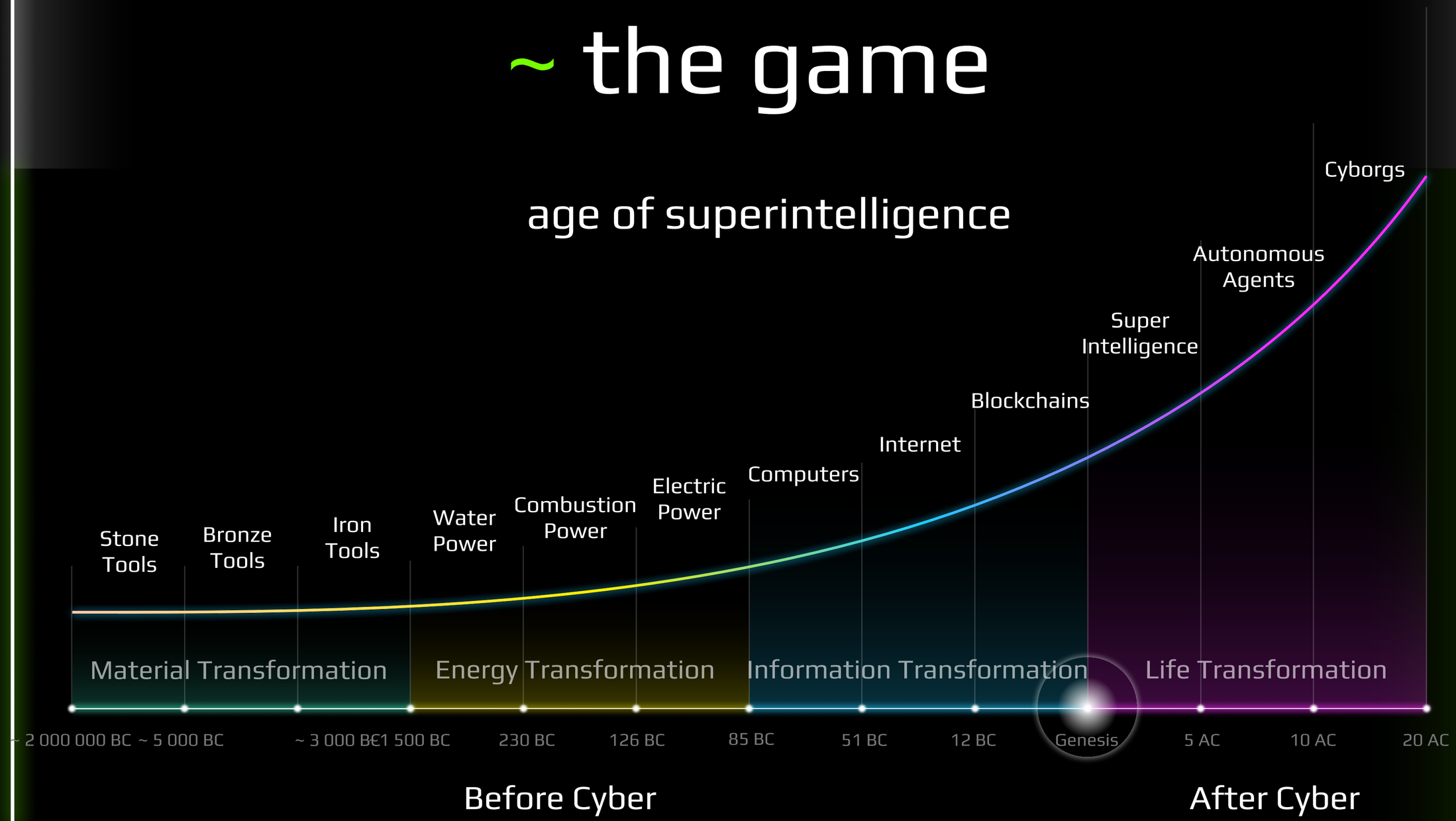
~ gpu hub

- Initial Semantic Bootloader
- Hub Registries
- Global Semantic Vault
- Bootloader
- Origin for Progs
- Teleport & Warp
- Genesis network of Cyberverse



Relevant Knowledge
For The Great Web

~ the game


age of superintelligence
Stone Tools
Bronze Tools
Iron Tools
Water Power
Combustion Power
Electric Power
Computers
Internet
Blockchains
Super Intelligence
Autonomous Agents
Cyborgs
Material Transformation
Energy Transformation
Information Transformation
Life Transformation
~ 2 000 000 BC
~ 5 000 BC
~ 3 000 BC
1 500 BC
230 BC
126 BC
85 BC
51 BC
12 BC
Genesis
5 AC
10 AC
20 AC
Before Cyber
After Cyber

~ bostrom in numbers

cosmos-sdk

Dyson Sphere	Citizens	Global Wealth	Connections
87%	12K	5500T H	5

cyber-sdk

Liquidity	Teleport	Programs	Code Temp
2000T H	20 pools	10	4989 K
Bandwidth	**Citizen Wealth**	**Link Value**	**Negentropy Value**
1%	500G H/C	73G H/Link	40G H/Bit
Particles	**Cyberlinks**	**Negentropy**	**GPU**
75K	89K	130K Bits	6 MB

~ hack cyber

1 TBOOT

prize

cyberhack during hackwasm

grants and investments

~ cybergift

Moon Citizenship

4.5M
addresses

Release and Learn

70%
of BOOT supply

~ cyberverse

focus on ai + web3

5-7 May

Bali

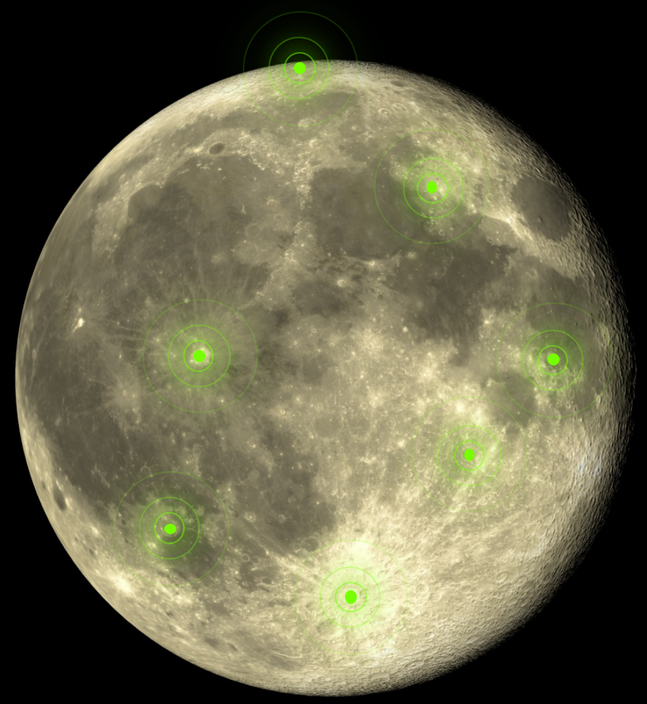
cyb.ai/search/cyberverse

~ workshop

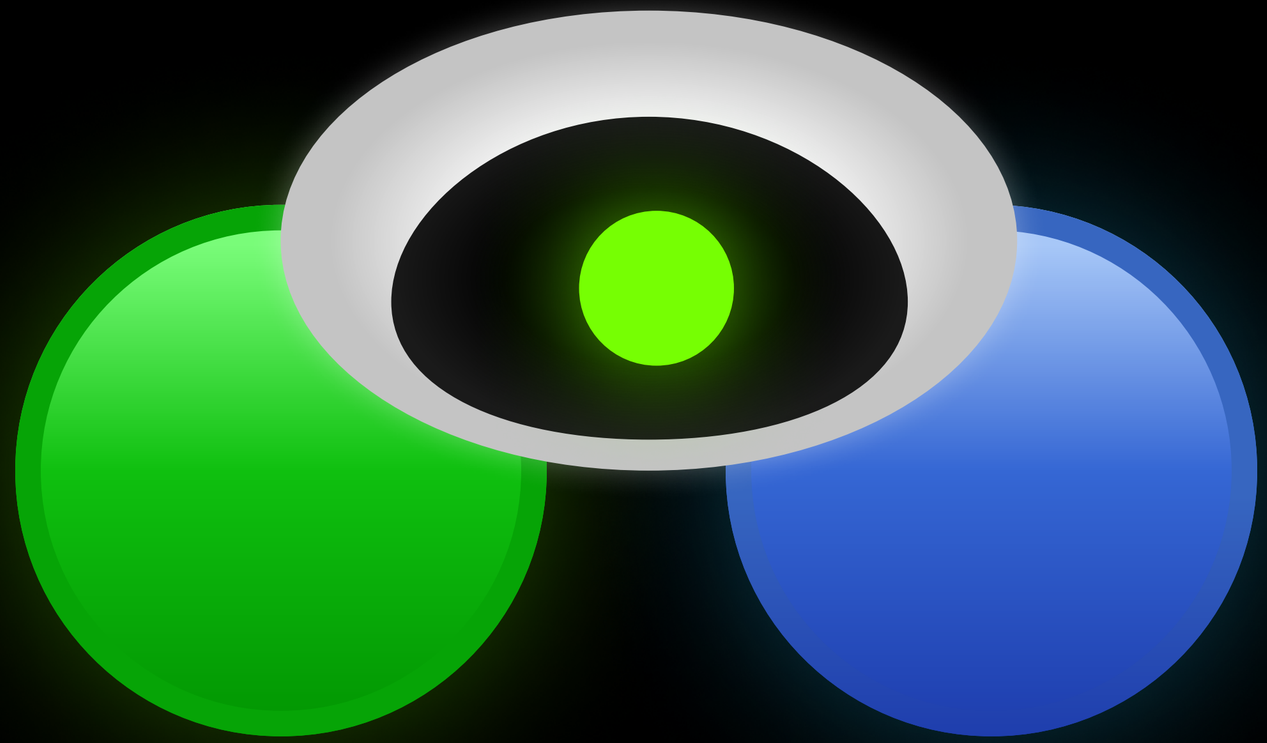
semantic dapps

- cyb.ai demo + feedback
- cyberlink your dapp
- colab cosmos tech tree

~ moon race



nodes to the moon



cyb.ai/search/soft3

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