

Emergent Computing

Highly complex process arising from the cooperation of many simple processes.

Turing's Machine

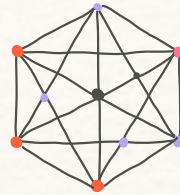


Personal computer

isolated computing machine

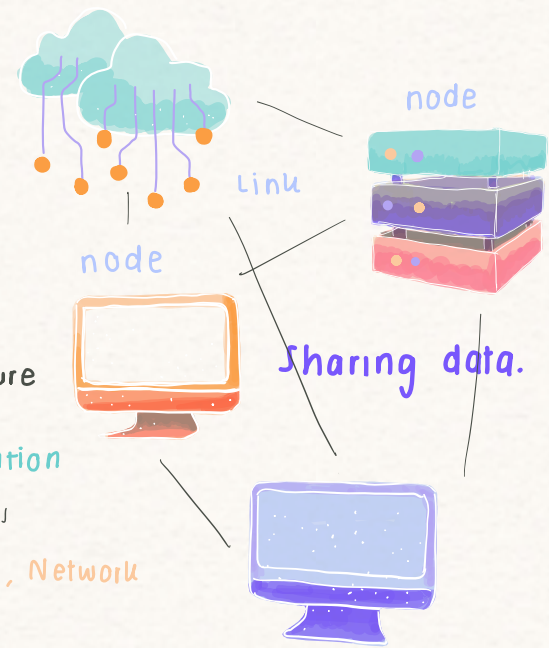
electronics
integrated circuit

Telecommunication
Technology



Morphological computation
modeled \approx dynamics of a structure of nodes

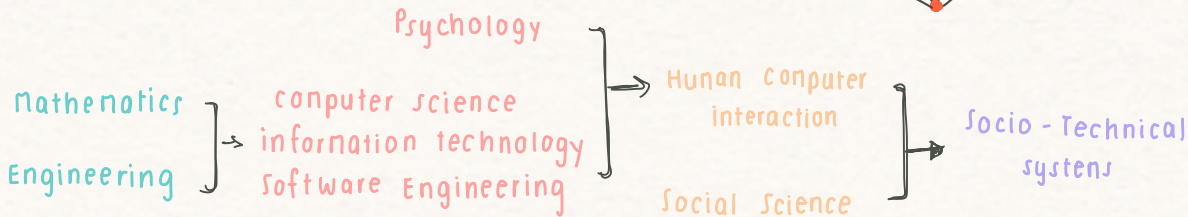
Networked communicating devices



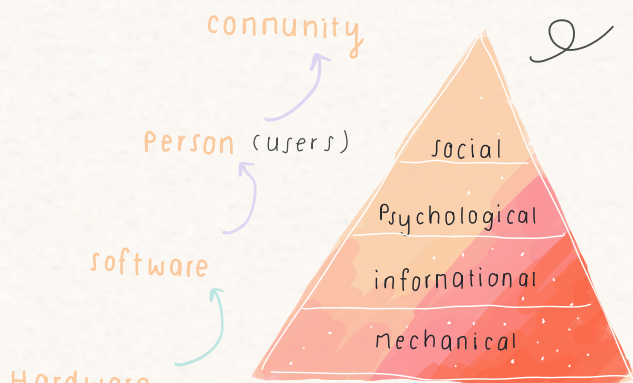
Sharing data.

exchange information
- distributed systems

The world \approx computer, Network



Level of emergence



Hardware

- Computing requirements hierarchy -

"The global level energy from the local interaction of large numbers of simpler components"

global effects.



evolution

Level	Exchange	ex.	design
community	memes	Norm, culture, roles, Laws	STS
Personal	meaning	Semantics, attitudes, beliefs, feelings, idea	HCI
information	information	Programs, data, memo. bandwidth	IT
Mechanical	Energy	Hardware, telephone motherboard	Techno.

Level of computing

"computing is evolving to higher levels"

● Evolution: driven by tech.

↳ progressive unfolding information from micro \rightarrow macro