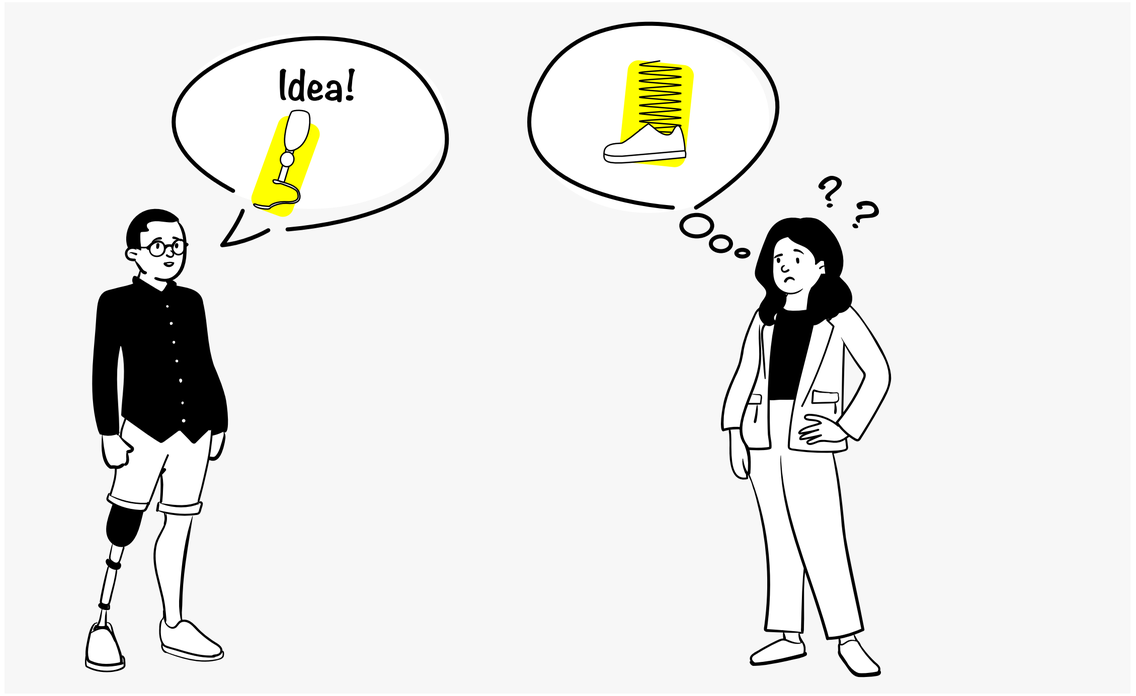
Giving novices the intuition of a master

Build interfaces to generative AI systems that have a deep understanding of the high-level semantics humans naturally use for communication.

Research them as means of cognitive enhancement for people with very limited technological and creative literacy.

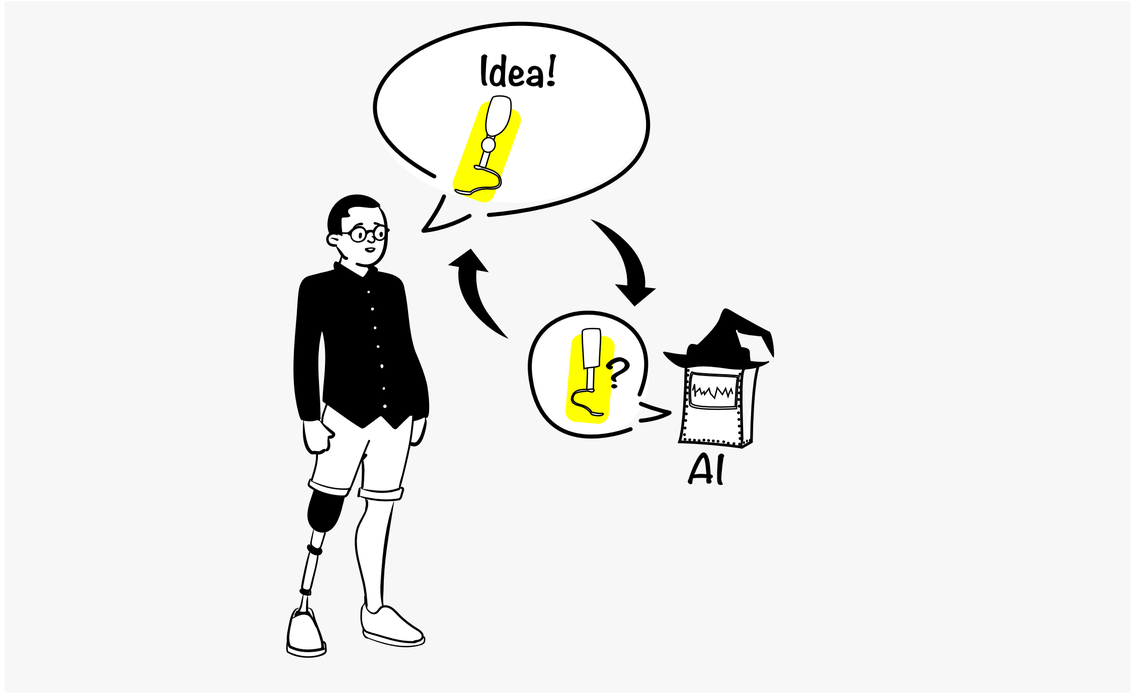


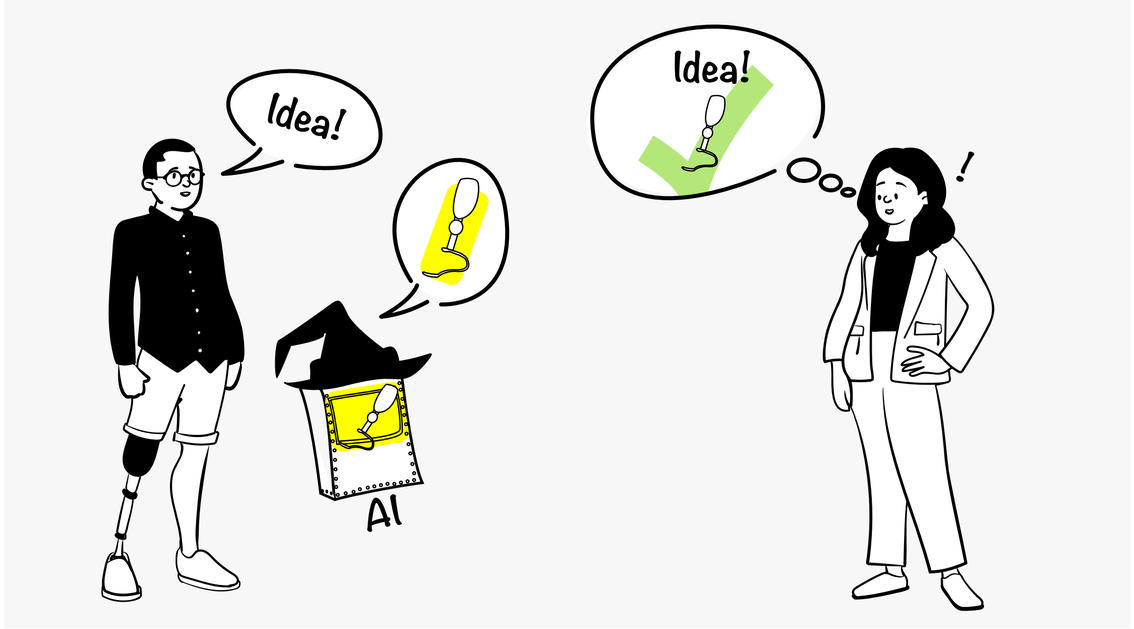
1. Enhancing social exchange through AI-aided communication

The share of people confident in their abilities to sketch, model, or verbally or textually describe ideas and concepts is low in absolute terms.

High age, low income, low education level, and certain mental disorders correlate with a decreased ability to reinforce communication through artistic means.

The result is an exclusion of people with great ideas from participating in designing our world.





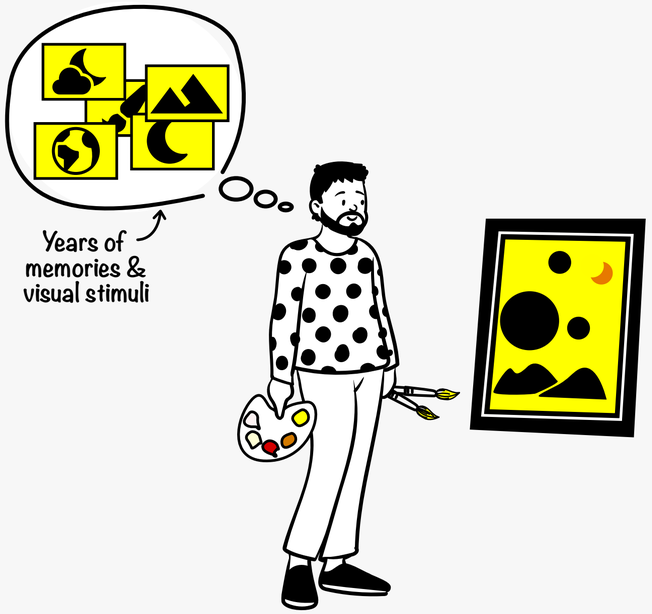
Enhancing social exchange through AI-aided communication

Generative deep learning allows persons with limited technological literacy to generate and edit complex artifacts with unprecedented ease.

Systems can interpret and manipulate high-level parameters, allowing for natural communication with a computer.

StyleCLIP [1], for example, already understands semantic input such as making a face look "*more like Emma Stone*", a synthetic cat look "*slightly cuter*", or a church look "*gothic*" or "*avant-garde*".

[1] Patashnik et al., 2021
https://arxiv.org/pdf/2103.17249.pdf

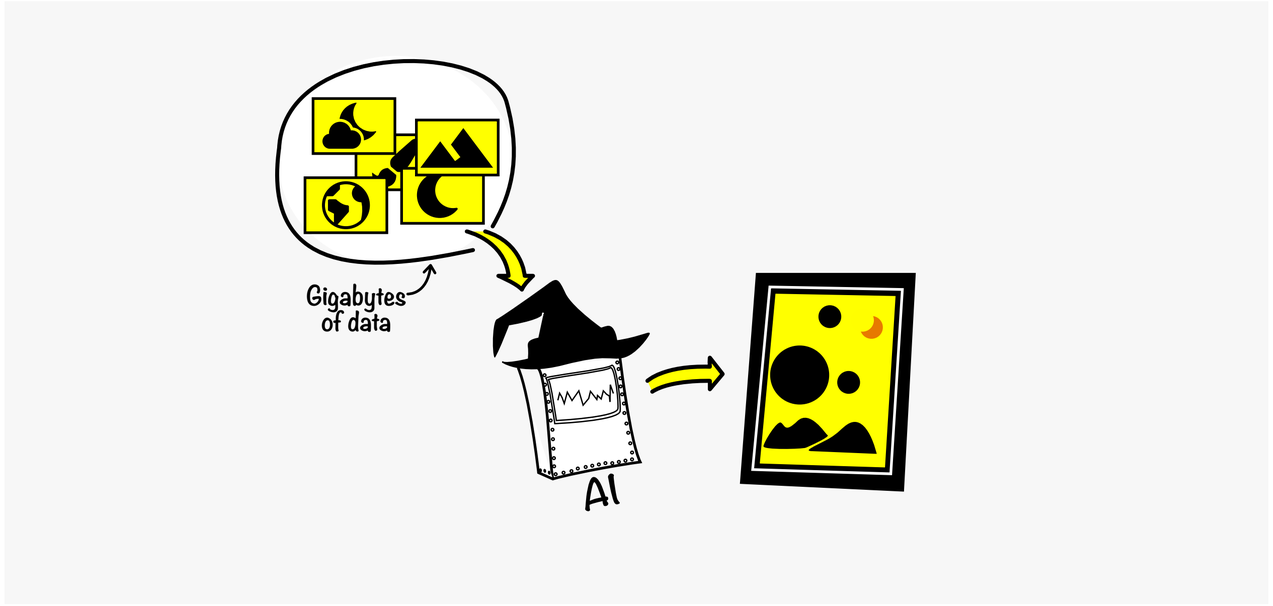


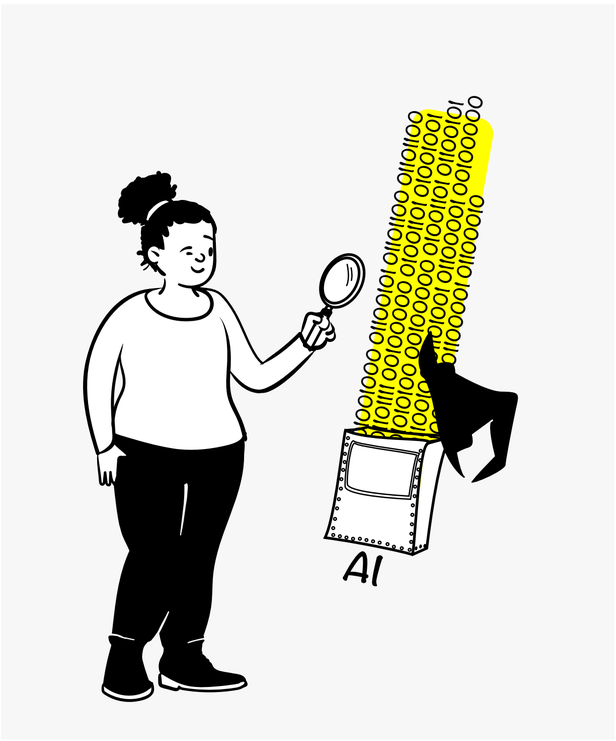
2. Reverse-engineering the human intuition

Gut feelings, instincts, and subconsciousness dominate our lives. Humans often do not utilize conscious reasoning in the countless decision processes they execute every day.

Understanding the latent rules of intuition is important for building interfaces between machines and the human intuition.

Interfacing with the intuition in return is crucial for making any bridges between man and machine seamless. An exchange between them contravenes our natural course of action if this exchange relies on hard, conscious thinking.





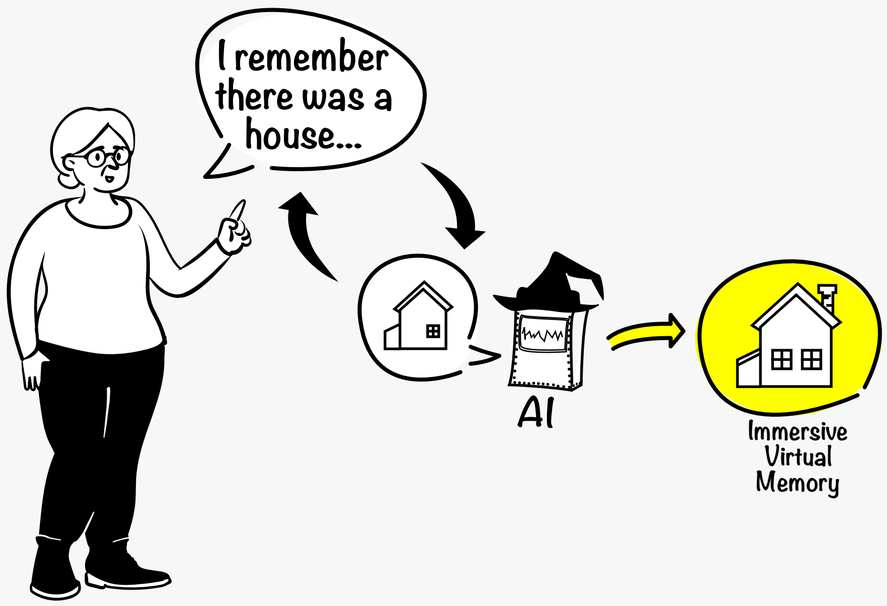
Reverse-engineering the human intuition

Neural networks can not only replicate subconscious human decision-making processes but also the mechanisms leading to it: learning from data.

Unlike humans, neural networks and their output can be studied in vast detail. Emerging patterns may be transposed to the human intuition to understand the latter better.

The insights gained can then be used for intervention, for example by augmenting intuition skills that otherwise take years to learn.

3. Virtual memories & fantasies for cognitive intervention



Having access to detailed imagery of one's past and imagination could significantly catalyze cognitive influences due to human's natural reliance on vision.

AI-augmented media synthesis could enhance psychotherapy through concrete trauma analysis, transference, and memory redesign.

Targeted dream incubation could benefit from individualized artificial visual stimuli.

Neither therapists nor dementia patients or dreamers currently utilize such artificial media because its creation is too complicated with conventional computers. Deep learning can change that due to the ability to control media synthesis with simple high-level semantics.