* [Japanese scientists just used A.I. to read minds and it’s amazing](https://www.cnbc.com/2018/01/08/japanese-scientists-use-artificial-intelligence-to-decode-thoughts.html)
  1. deep neural networks
  2. decode more sophisticated “hierarchical” images
  3. The visualization technology would allow you to draw pictures or make art simply by imagining something; your dreams could be visualized by a computer; the hallucinations of psychiatric patients could be visualized aiding in their care; and brain-machine interfaces may one day allow communication

with imagery or thoughts

* [A Mixture of Personalized Experts for Human Affect Estimation](https://dam-prod.media.mit.edu/x/2018/05/01/personalized-mixture-supervised_final_tYWcW0Y.pdf)
  + deep convolutional neural networks for facial expression analysis from still images
* <https://qz.com/1489252/the-science-behind-facial-recognition-isnt-as-solid-as-companies-claim-experts-say/>
  + “The problem is now AI is being applied in a lot of social contexts. Anthropology, psychology, and philosophy are all incredibly relevant, but this is not the training of people who come from a technical [computer science] background.” says Kate Crawford, co-founder of AI Now, distinguished research professor at NYU and principal researcher at Microsoft Research. “Essentially the narrowing of AI has produced **a kind of guileless acceptance of particular strands of psychological literature that have been shown to be suspect.**”
  + “A hypothetical emotion-reading robot would need tremendous knowledge and context to guess someone’s emotional experiences.”
  + “Any simplistic mapping of a facial expression onto basic emotional categories through AI is likely to reproduce the errors of an outdated scientific paradigm,” the report says.
* <https://ainowinstitute.org/AI_Now_2018_Report.pdf>
  + Affect recognition is a subclass of facial recognition that claims to detect things such as personality, inner feelings, mental health, and “worker engagement” based on images or video of faces. These claims are not backed by robust scientific evidence, and are being applied in unethical and irresponsible ways that often recall the pseudosciences of phrenology and physiognomy
* <https://developer.affectiva.com/metrics/>
  + <https://knowledge.affectiva.com/v3.2/docs/facial-landmarks-1>
  + Mapping Expressions to Emotions: <https://developer.affectiva.com/mapping-expressions-to-emotions/>
* <https://www.researchgate.net/publication/234837419_Facial_and_Vocal_Expressions_of_Emotion>
  + **Fallacies** in modern psychology in studies of expressions of emotions
  + “The initial translation of anexpression into some meaning is likely to be so immediate that we are not aware of the processwe go through” (Ekman 1997, p.334)
  + The typical decoding study is also compromised by the task given the receiver. Forcingthe receiver to choose one from a short list of emotions can inflate agreement and even produceblatant artifacts (Russell 1994). Providing the receiver with more options lowers agreement(Banse & Scherer 1996). Allowing the receiver to specify any emotion (free labeling) lowersagreement still further (Russell 1994). Some of the artifacts can be eliminated by providing“none of the above” as a response option (Frank & Stennett 1999), and future studies should doso.
  + There is evidence that attributing a specificemotion to the sender is more complex than the simple, easy, immediate detection of a signal.For example, even when the stimuli are the hypothesized prototypical facial expressions of

emotion, the emotion attributed to the face depends on the context within which the expressionoccurs (Carroll & Russell 1996), on the gender of the sender (Widen & Russell 2002), and on thereceiver’s current affective state (Niedenthal et al 2000).

* + An objective (but intrusive) technique is electromyography, especially useful forbrief or small muscular movement (Fridlund & Cacioppo 1986, Tassinary & Cacioppo 1992). Anobjective and unobtrusive technique useful for visible movements was developed by Hjortsjö(1969) based on facial anatomy. This technique was subsequently revised and renamed theFacial Action Coding System (FACS) by Ekman and Friesen (1978). An updated version ofFACS was recently announced (Ekman et al 2002). H Oster and D Rosenstein (unpublishedmanuscript, Adelphi Univ.) developed a version of FACS for infant faces. Still another system isKatsikitis and Pilowsky’s (1988) FACEM, which assesses facial movement in terms of 12distances between key points on the face
* Perceptions of Emotion from Facial Expressions are Not Culturally Universal: Evidence from a Remote Culture: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4752367/>
  + perceptions of emotion are not universal, but depend on cultural and conceptual contexts.
* <https://psyarxiv.com/pf2q3/>
  + It has been suggested that various design features of choice-from-array tasks make it difficult to observe diversity in emotion perception and therefore disconfirm hypotheses of universality (Russell, 1994). A recent meta-analysis (Nelson and Russell, 2013) and systematic review (Gendron, Crivelli, & Barrett, in press) confirmed these concerns, demonstrating that scientific evidence for cross-cultural consistency comes almost exclusively from experiments employing choice-from-array and other tasks that limit participant responding and therefore make it difficult to observe cultural variation (also see Crivelli & Gendron, 2017; Jack, 2013).
* Emotional Intelligence Needs a Rewrite. Think you can read people’s emotions? Think again. <http://nautil.us/issue/51/limits/emotional-intelligence-needs-a-rewrite>
  + Numerous scientific studies have confirmed these observations. When we place electrodes on people’s faces to record their muscle movements, we see that they move in different ways, not one consistent way, when their owners feel the same emotion. Where the body is concerned, hundreds of studies show that instances of the same emotion involve different heart rates, breathing, blood pressure, sweat, and other factors, rather than a single, consistent response. Even in the brain, we see that instances of a single emotion, such as fear, are handled by different brain patterns at different times, both in the same individual and in different people. This diversity isn’t random. It’s tied to the situation you’re in.
  + This ability is called emotional granularity, and my students and I discovered it about 20 years ago. We asked hundreds of test subjects to record their emotions throughout the day on handheld computing devices (in the pre-smartphone days). From the data, we found that people use the same emotion words, but not necessarily to mean the same thing. For example, some people use words like “angry,” “fearful,” and “sad” to refer to completely different experiences, while others use all three words interchangeably to mean “feeling bad.”
* <https://arxiv.org/pdf/1706.09554.pdf>
  + Marvin Minsky boldly stated that "The question is not whether intelligent machines can have any emotions, but whether machines can be intelligent without any emotions"
* Artificial speech production:
  + <https://modulate.ai/>
  + <https://lyrebird.ai/>
* <https://www.newscientist.com/article/2114900-concerns-as-face-recognition-tech-used-to-identify-criminals/>: how false methodology could lead to problematic results
* <https://imotions.com/requestdemo/>