

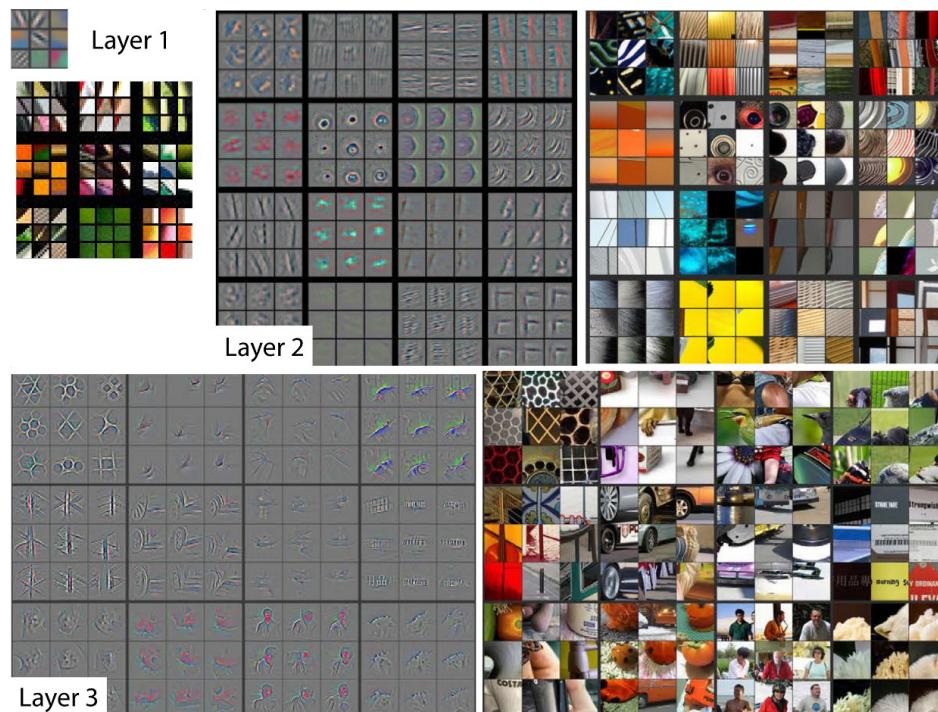
EE-559 – Deep learning

1.3. What is really happening?

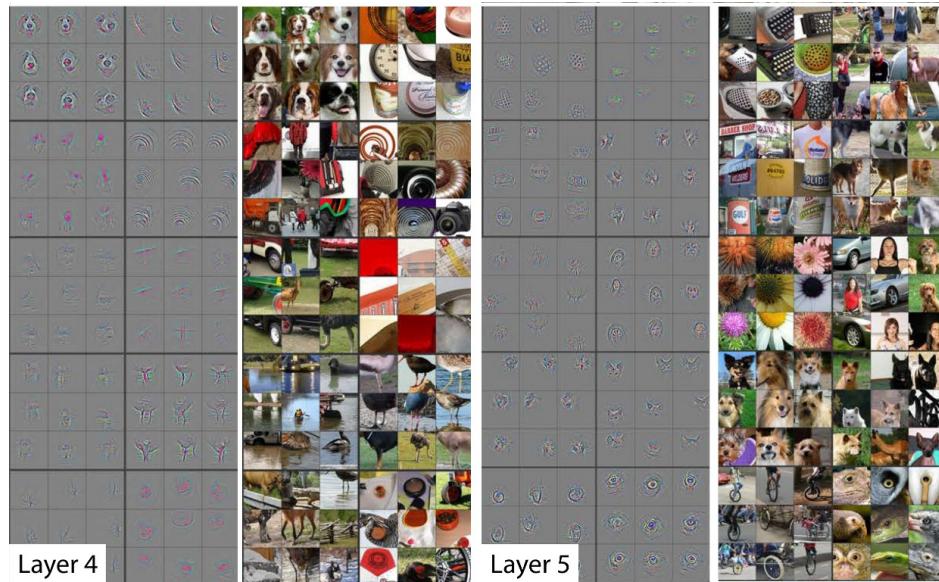
François Fleuret

<https://fleuret.org/ee559/>

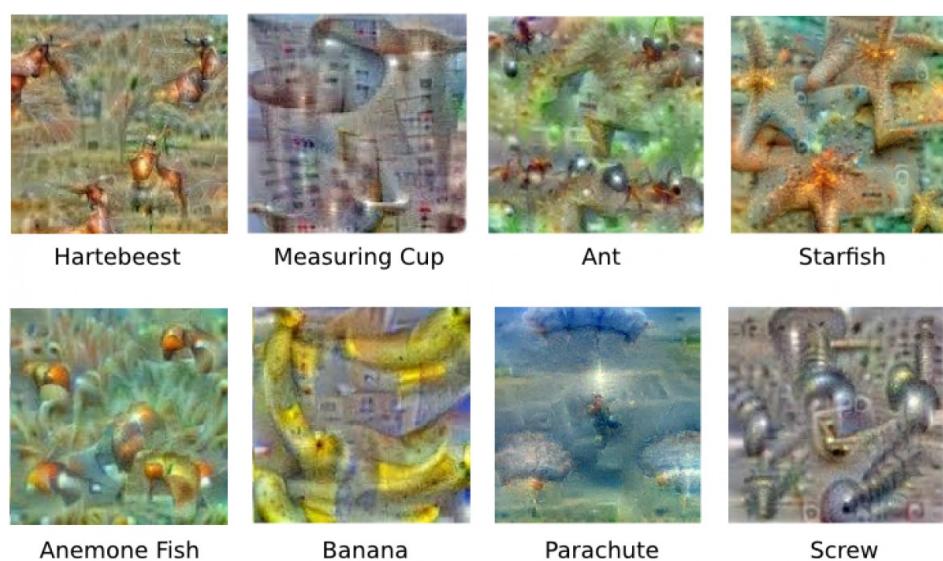
Dec 23, 2019



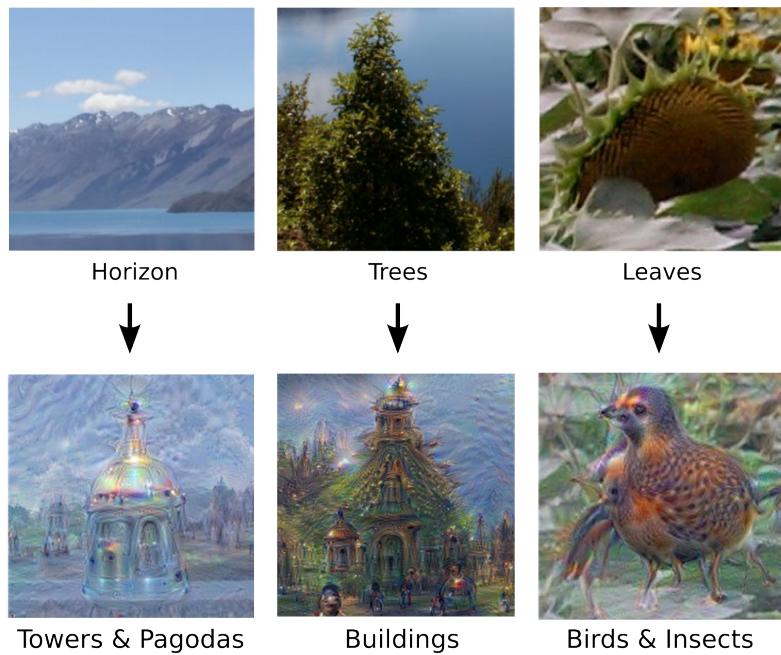
(Zeiler and Fergus, 2014)



(Zeiler and Fergus, 2014)



(Google's Deep Dreams)



(Google's Deep Dreams)

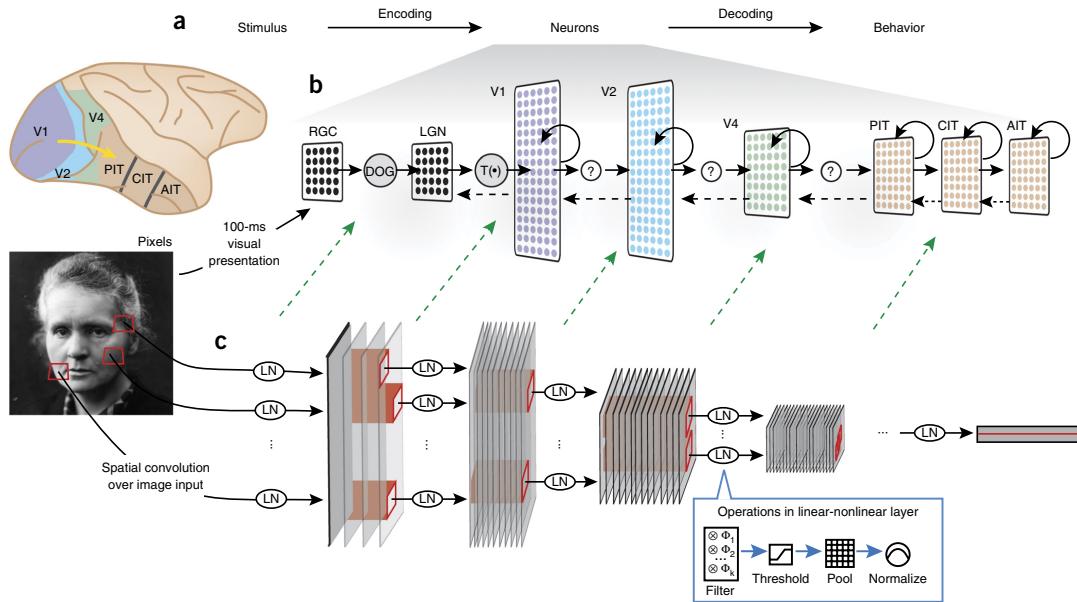


(Thorne Brandt)

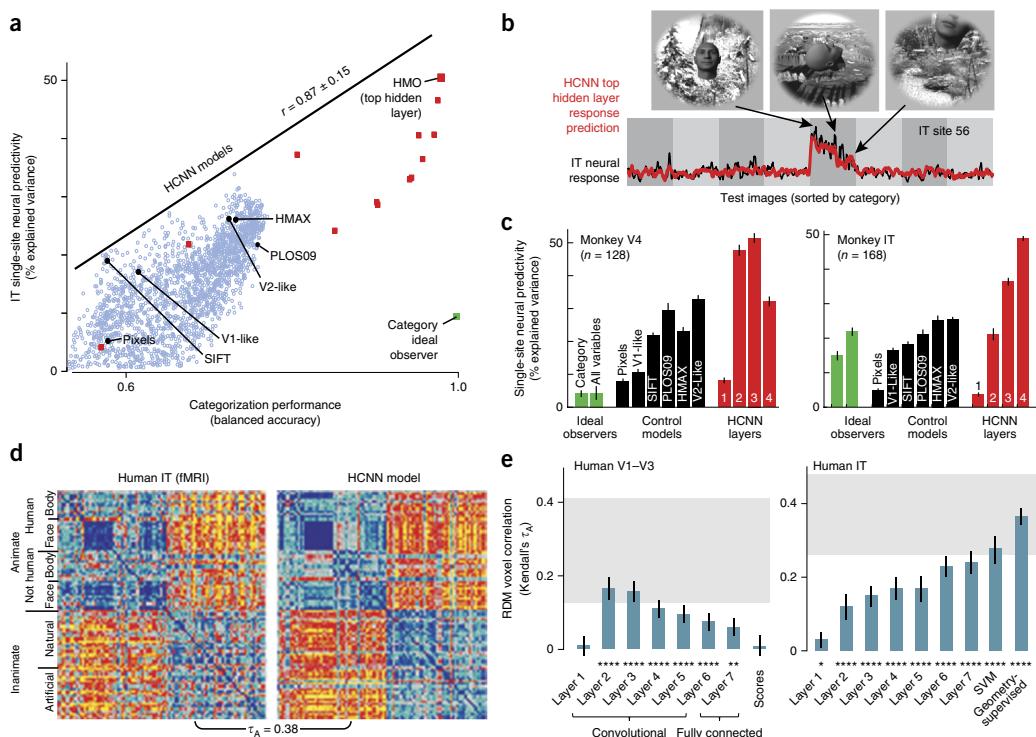


(Szegedy et al., 2014)

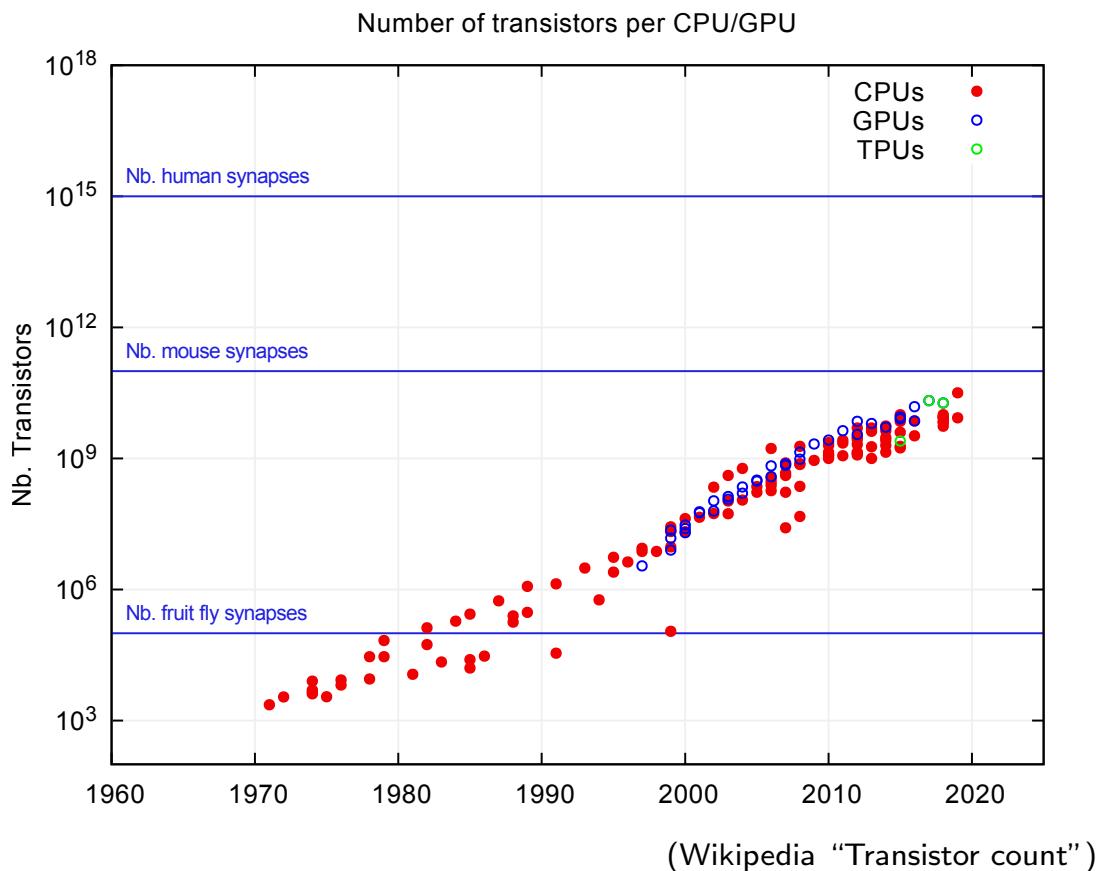
Relations with the biology



(Yamins and DiCarlo, 2016)



(Yamins and DiCarlo, 2016)



References

- C. Szegedy, W. Zaremba, I. Sutskever, J. Bruna, D. Erhan, I. Goodfellow, and R. Fergus. **Intriguing properties of neural networks**. In [International Conference on Learning Representations \(ICLR\)](#), 2014.
- D. L. K. Yamins and J. J. DiCarlo. **Using goal-driven deep learning models to understand sensory cortex**. [Nature neuroscience](#), 19:356–65, Feb 2016.
- M. D. Zeiler and R. Fergus. **Visualizing and understanding convolutional networks**. In [European Conference on Computer Vision \(ECCV\)](#), 2014.