

# Neural Style Transfer using CNN

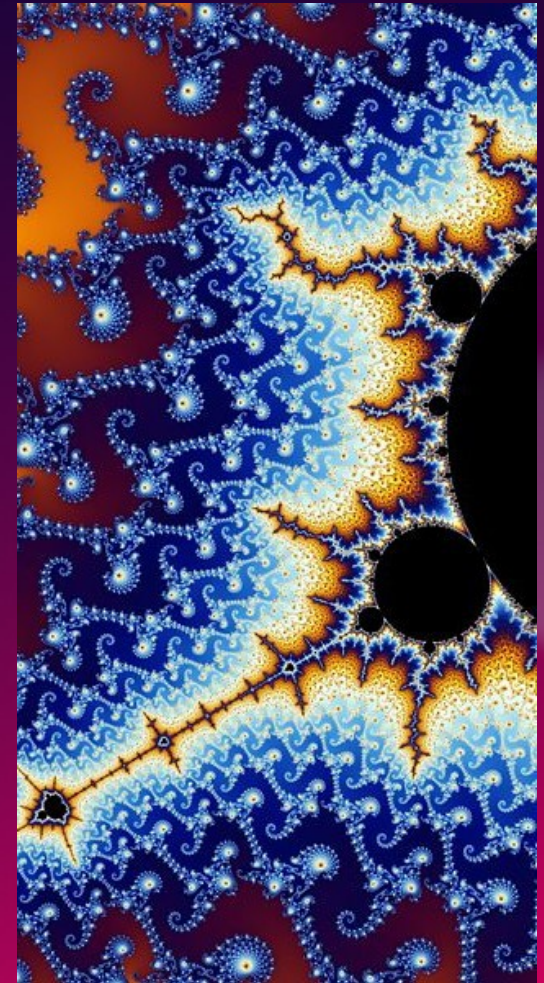
Image reconstruction

[www.deepart.io](http://www.deepart.io)

[www.deepdreamgenerator.com](http://www.deepdreamgenerator.com)

# Development of creative AI

- 1952: Ben Laposky, 'Oscillons' oscilloscope
- 1965: Frieder Nake, Hommage à Paul Klee
- 1970: Univ. of London, Exp.Com.Dep.
- 1978: Fractals, eg. Mandelbrot
- 1980: James Faure Walker, 'Dark Filament'
- 1985: Digital Artwork, Andy Warhol
- 1992: First New York Digital Salon
- 1998: Digital Art Museum, Wolfgang Lieser
- 2003: Launch of second life
- 2008: TV Art for the Digital Generation
- 2008: Synthetic organisms

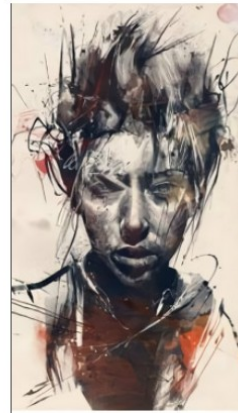
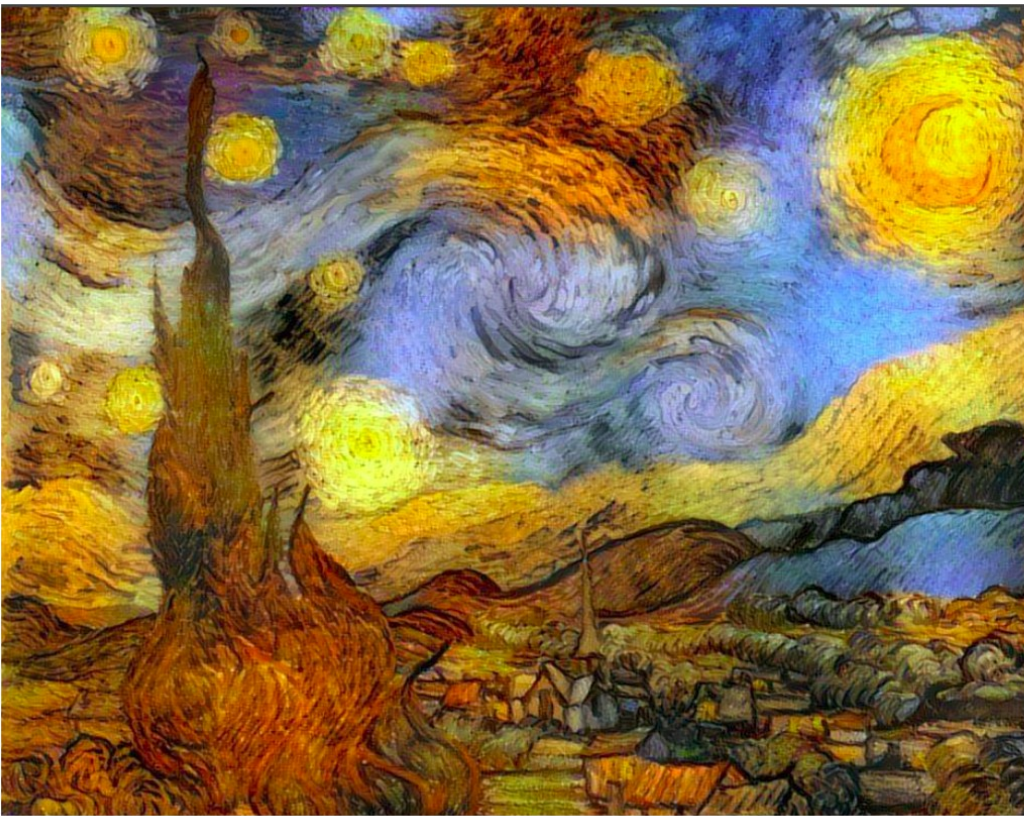


# Neural Style Transfer (NST)

- Neural style transfer is an optimization technique used to take two images—a content image and a style reference image (such as an artwork by a famous painter)—and blend them together so the output image looks like the content image, but “painted” in the style of the style reference image.

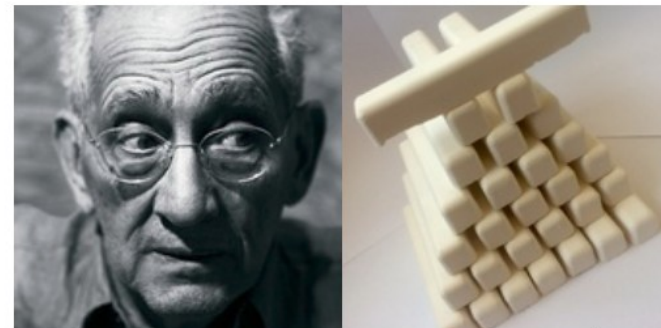


# Examples from [www.deepdreamgenerator.com](http://www.deepdreamgenerator.com)





# Examples from [www.deepart.io](http://www.deepart.io)



# Art movement and styles

- Surrealism
- Impressionism
- Cubism
- Pop Art
- Naturalism
- Abstract
- Dada/Dadaism
- Expressionism
- Minimalism
- Classicism



[www.artyfactory.com](http://www.artyfactory.com)



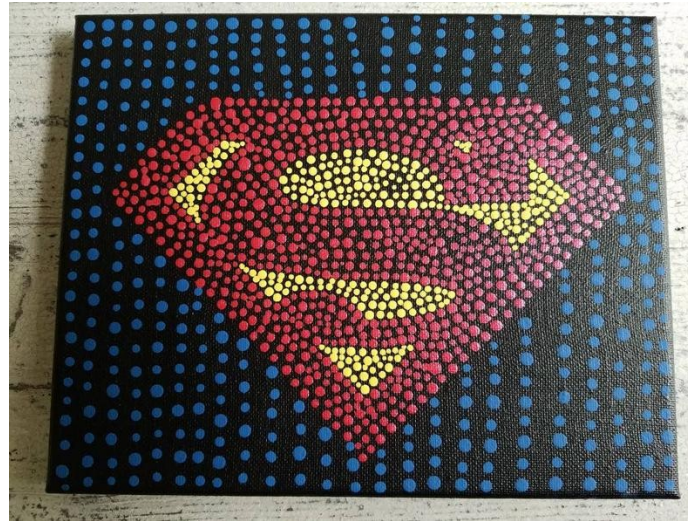
# Materials and Technics

## Materials:

- Oil pastels.
- Watercolors.
- White colored pencil
- Pointillism with acrylics.
- Drawing with pencils.
- Colored pencils.

## Technics:

- Underpainting
- Blocking in
- Buliding up texture
- Dry brushing
- Glazing
- Scraper

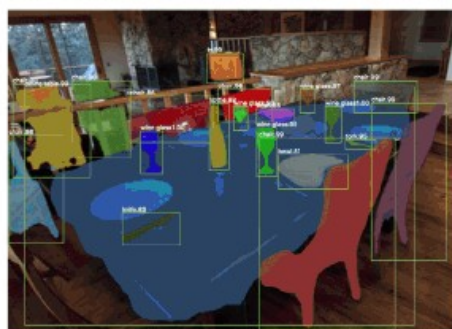
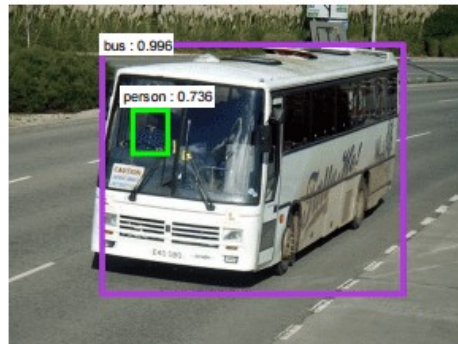
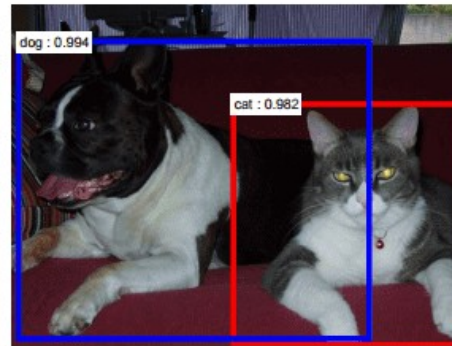
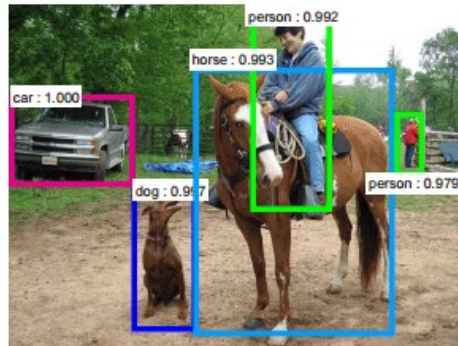


[www.etsy.com](http://www.etsy.com)



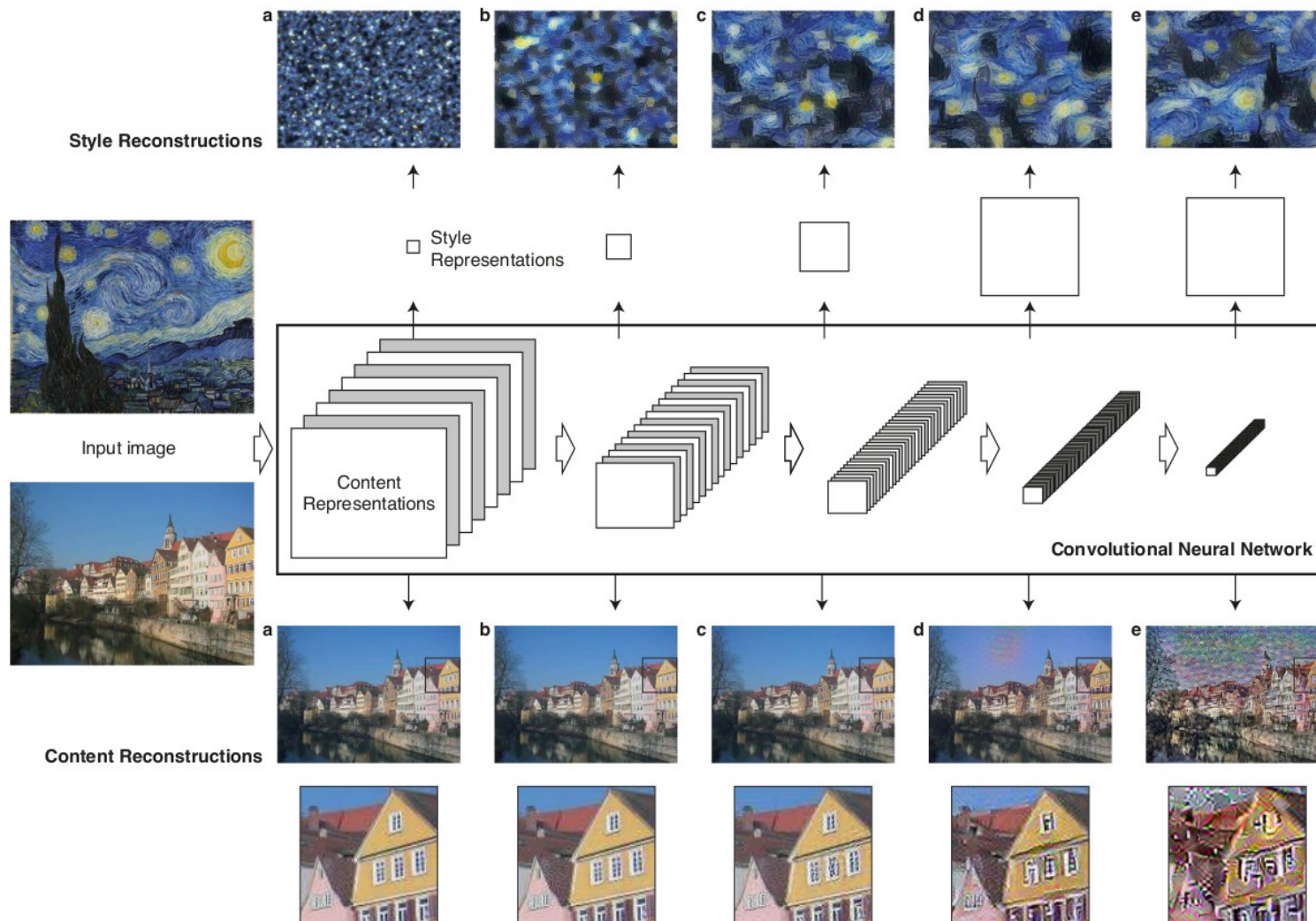
[Www.webartacademy.com](http://www.webartacademy.com)

- Faces
- Cars
- Houses
- Dogs
- Cats
- Cogs
- Tables
- Books
- Plants

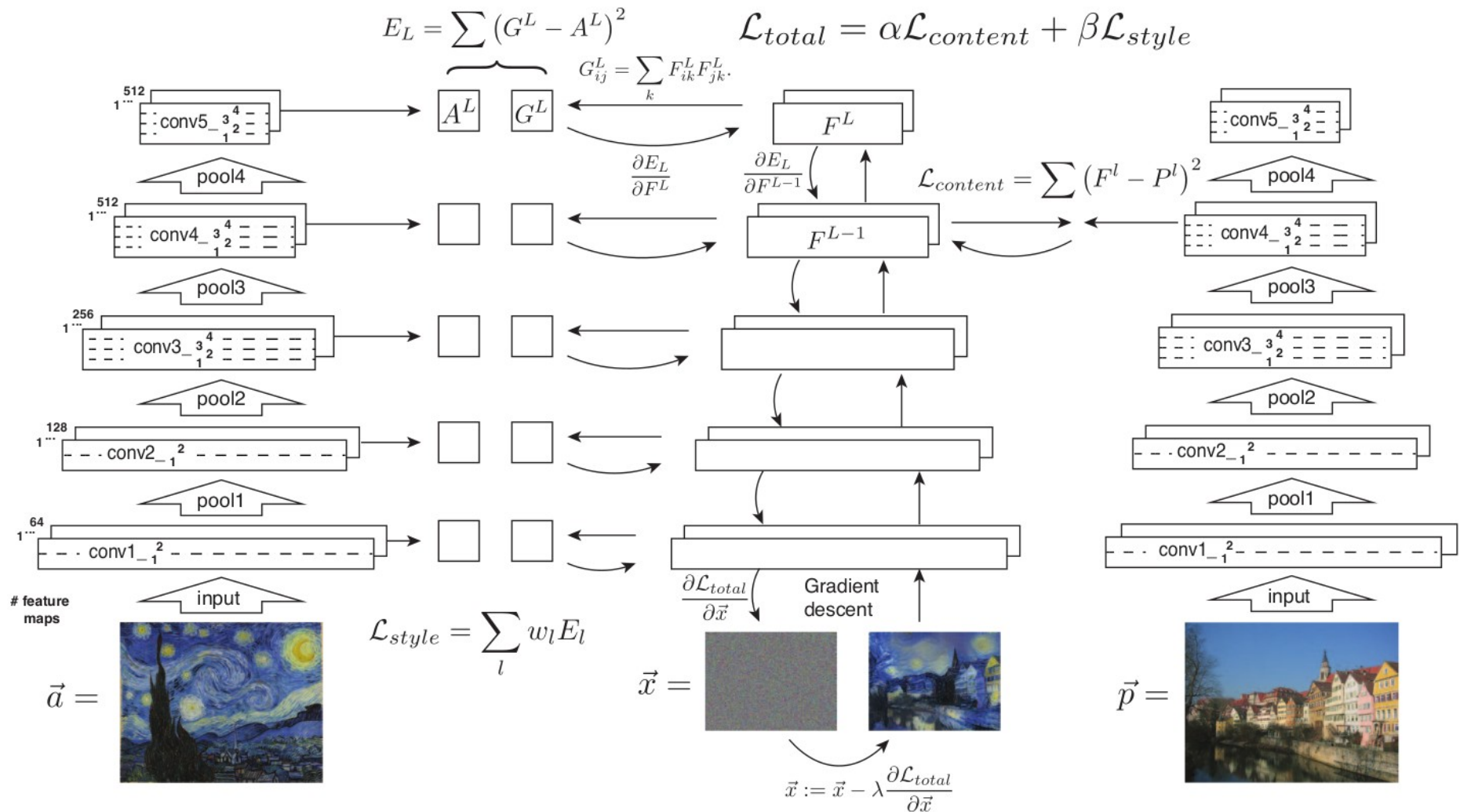




# Image representation in a CNN

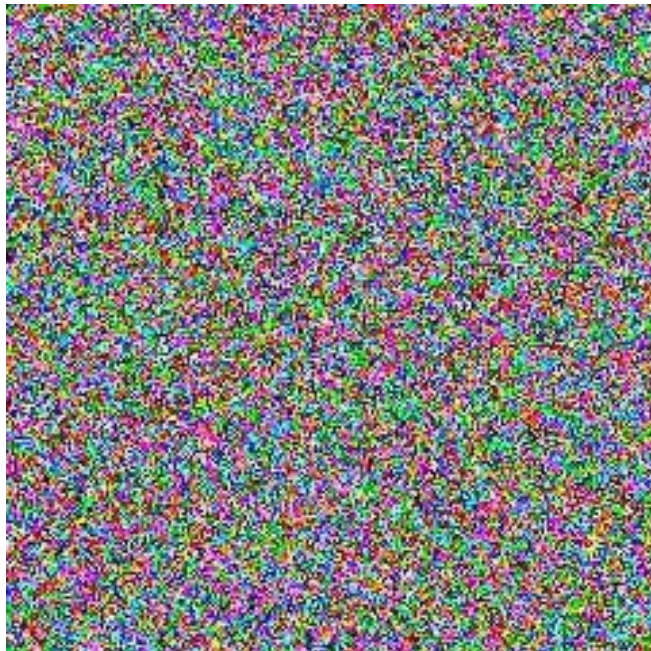


# Style transfer algorithm

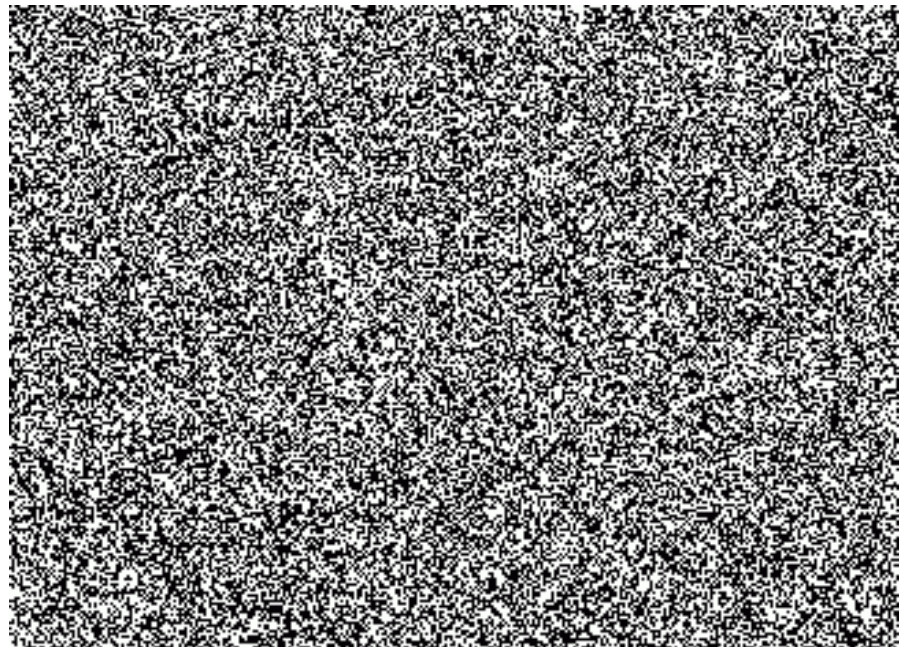




# Image reconstruction from white noise of random color image

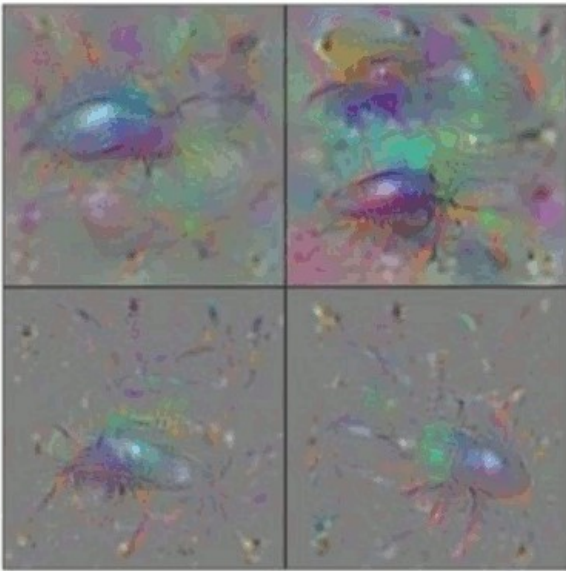


[www.yosinski.com](http://www.yosinski.com)

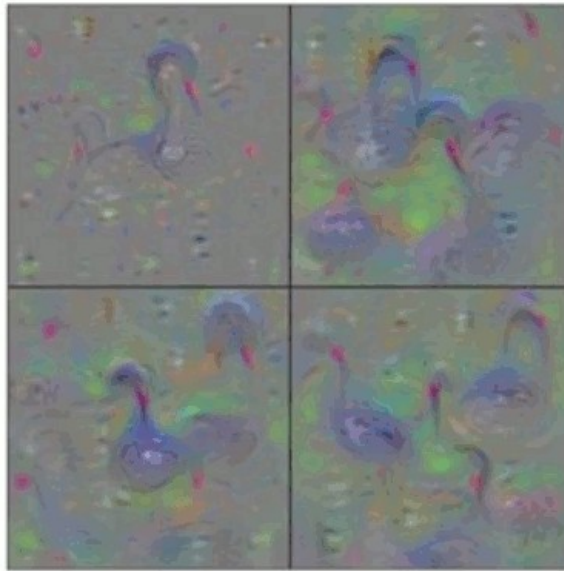


[www.iceyboard.no-ip.org](http://www.iceyboard.no-ip.org)

# Image reconstruction of deep layers



Ground Beetle



Black Swan



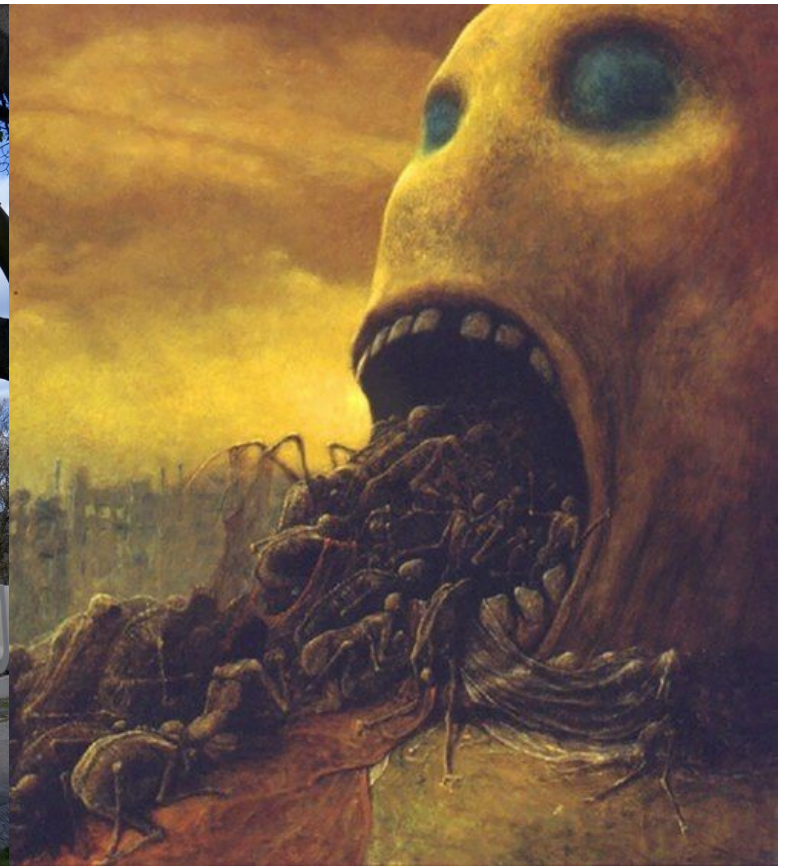
Tricycle



# Thank you for your attention



[www.berliner-woche.de](http://www.berliner-woche.de)



[www.i.pinimg.com](http://www.i.pinimg.com)



# The new Beuth



[www.deepart-io](http://www.deepart-io)