Introduction to Auto-Encoders

What are Auto-Encoders?

- "Autoencoding" is a data compression algorithm where the compression and decompression functions are 1) data-specific, 2) lossy, and 3) *learned automatically from examples* rather than engineered by a human.

- Additionally, in almost all contexts where the term "autoencoder" is used, the compression and decompression functions are implemented with neural networks.

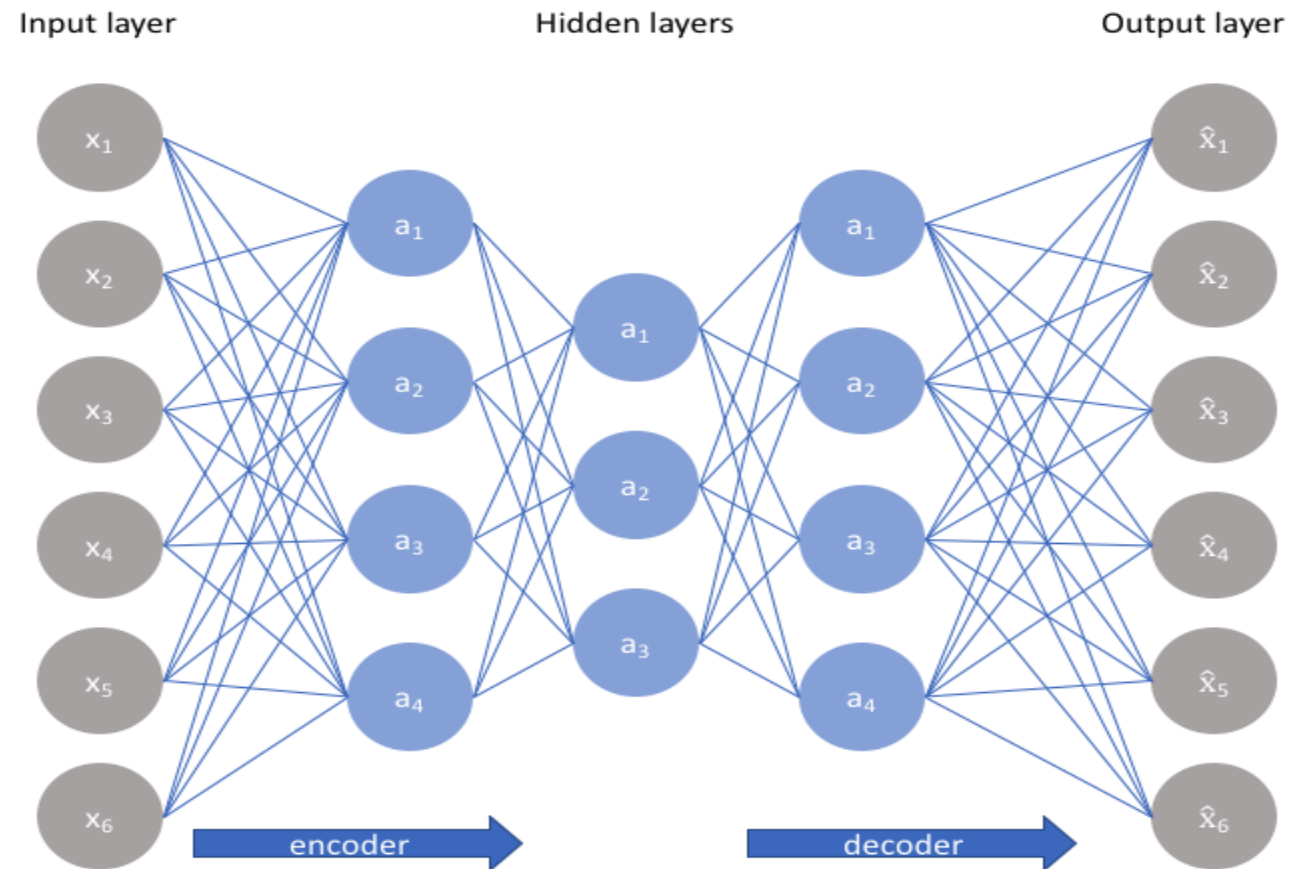- Autoencoder is a unsupervised learning algorithm

Autoencoder

Image Courtesy: https://www.jeremyjordan.me/autoencoders/

Uses of autoencoders

- Dimensionality Reduction (equivalent to Principal Component Analysis)
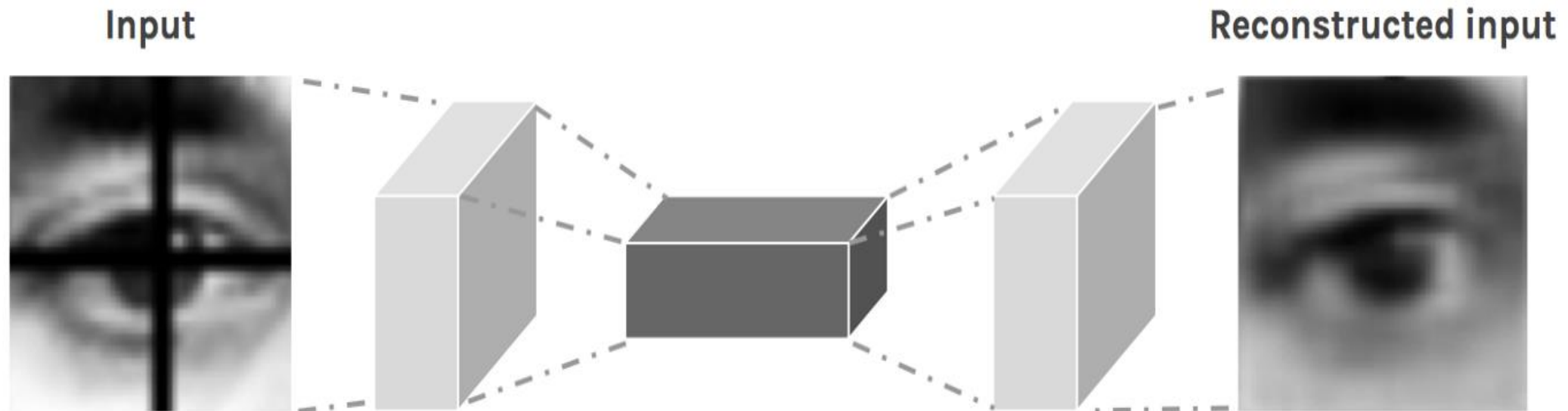

Image Courtesy: https://towardsdatascience.com/autoencoders-are-essential-in-deep-neural-nets-f0365b2d1d7c
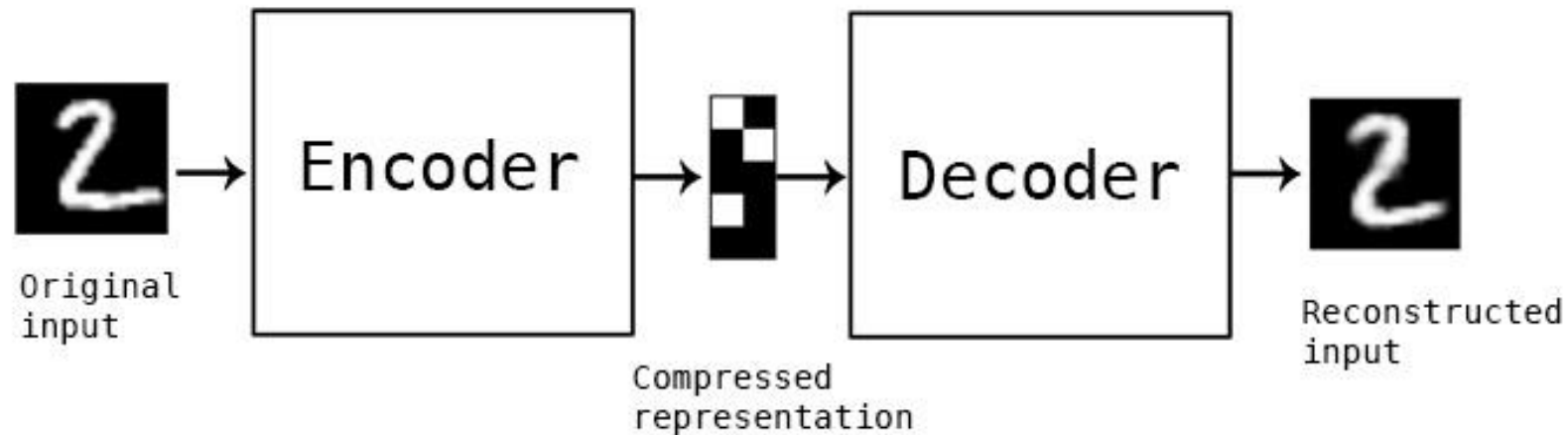
Uses of autoencoders

Image Courtesy: https://blog.keras.io/building-autoencoders-in-keras.html

Some Links for reference

- https://blog.keras.io/building-autoencoders-in-keras.html
- http://ufldl.stanford.edu/tutorial/unsupervised/Autoencoders/
- https://www.jeremyjordan.me/autoencoders/