Why do we care about generative models?

"What I can not create I do not understand"
-Richard Feynman

"…generative capabilities are the key to intelligence…"
-Max Welling

Ex: in classification the generative conditional $p(x\,|\,y)$ is more powerful

$$p(y\,|\,x) = p(class\,|\,image) \qquad p(x\,|\,y) = p(image\,|\,class)$$

https://youtu.be/mmDw5gIry9w?t=2985

Normalizing Flows Implementation