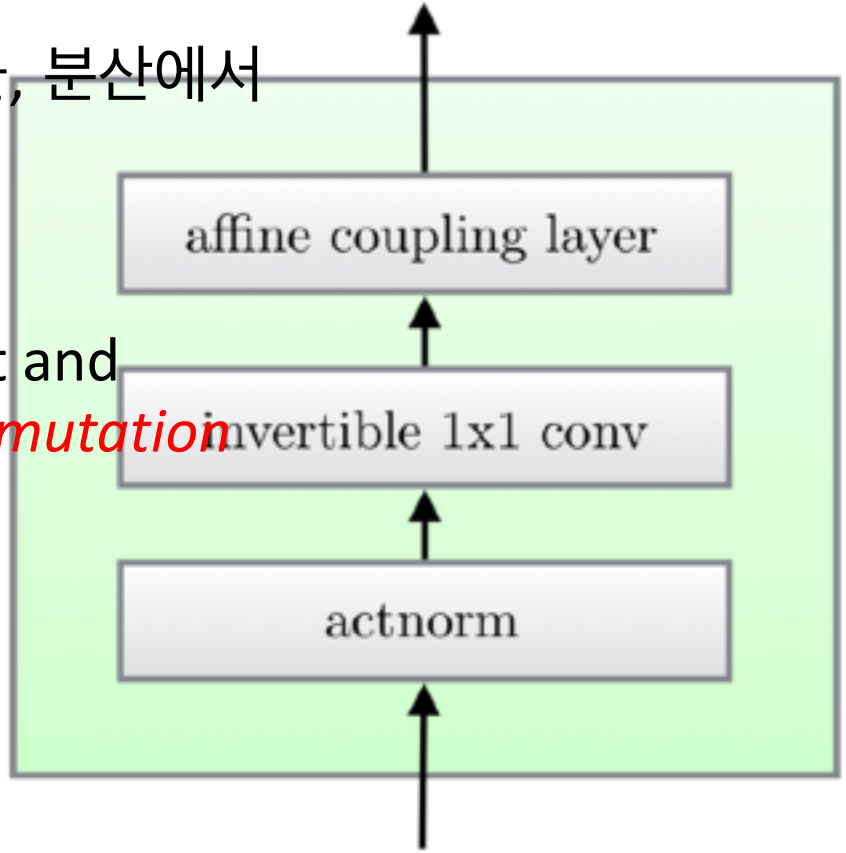
Models with NF : GLOW

Glow (Kingma and Dhariwal, 2018)

- Actnorm : Activation normalization
  - Batch normalization과 같은 역할로 잘못된 평균, 분산에서 벗어나게 하거나 큰 이미지에서 성능향상한다.
- Invertible 1x1 convolution
  - A 1×1 convolution with equal number of input and output channels is *a generalization of any permutation* of the channel ordering.
- Affine coupling layer
  - Same as in RealNVP



One step of flow in the Glow model.

Autoregressive flows

- If a flow transformation in a normalizing flow is framed as an autoregressive model — each dimension in a vector variable is conditioned on the previous dimensions — this is an **autoregressive flow**.
- 직후의 확률이 그 전까지 확률에 의존하는 것.
- 이를 flow로 나타난 것.

$$p(\mathbf{x}) = \prod_{i=1}^{D} p(x_i|x_1, \ldots, x_{i-1}) = \prod_{i=1}^{D} p(x_i|x_{1:i-1})$$