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.

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

Models with Autoregressive flows : PixelRNN

Pixel Recurrent Neural Networks (Oord et al, 2016)

- deep generative model for images
- 이전 픽셀들을 샘플링해(autoregressive) 새로운 데이터를 하나씩(flow) 만들어냄.

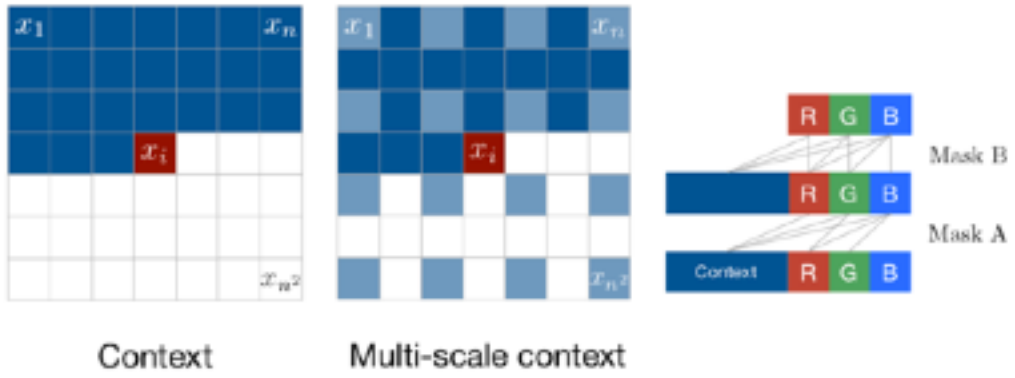

Figure 1. Image completions sampled from a PixelRNN.