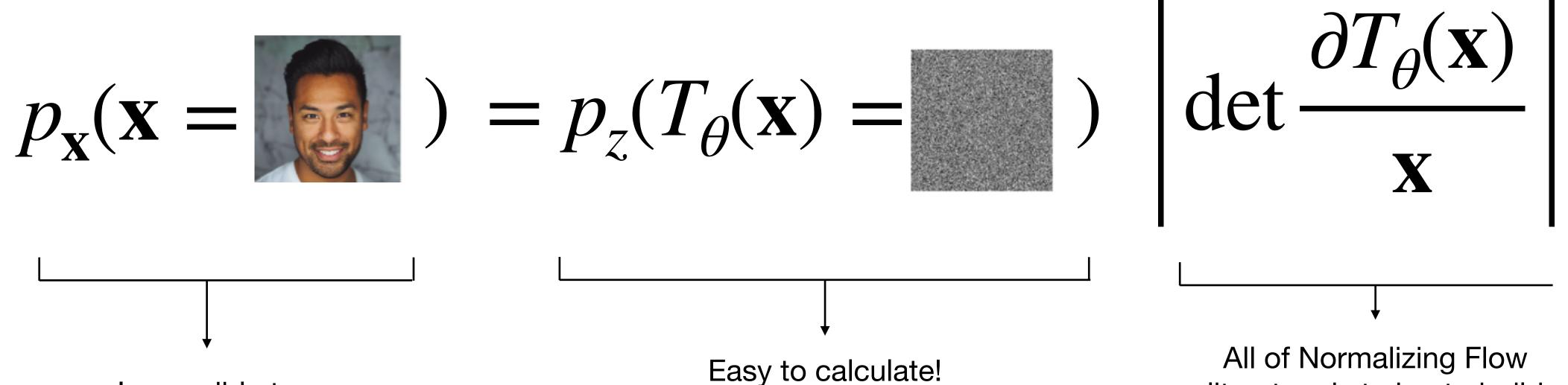
Training Normalizing Flows

Density evaluation and training is based on change of variable formula



=> log likelihood

related to $||f_{\theta}(x)||_2$

All of Normalizing Flow literature is trying to build f_{θ} such that this is tractable to calculate.

Impossible to

calculate!

Implementing Normalizing Flows

In general, a determinant calculation is $\mathcal{O}(d^3)$

$$\det \frac{\partial T_{\theta}(\mathbf{x})}{\mathbf{x}} \left[\begin{array}{c} \begin{pmatrix} \mathbf{x} \times \mathbf{x} \times \mathbf{x} \times \mathbf{x} \\ \mathbf{x} \times \mathbf{x} \times \mathbf{x} \times \mathbf{x} \\ \mathbf{x} \times \mathbf{x} \times \mathbf{x} \times \mathbf{x} \\ \mathbf{x} \times \mathbf{x} \times \mathbf{x} \times \mathbf{x} \end{pmatrix} \right]$$