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Measurements to Probabilistic Results: Conditional Variational Autoencoders

Francesco Tonolini

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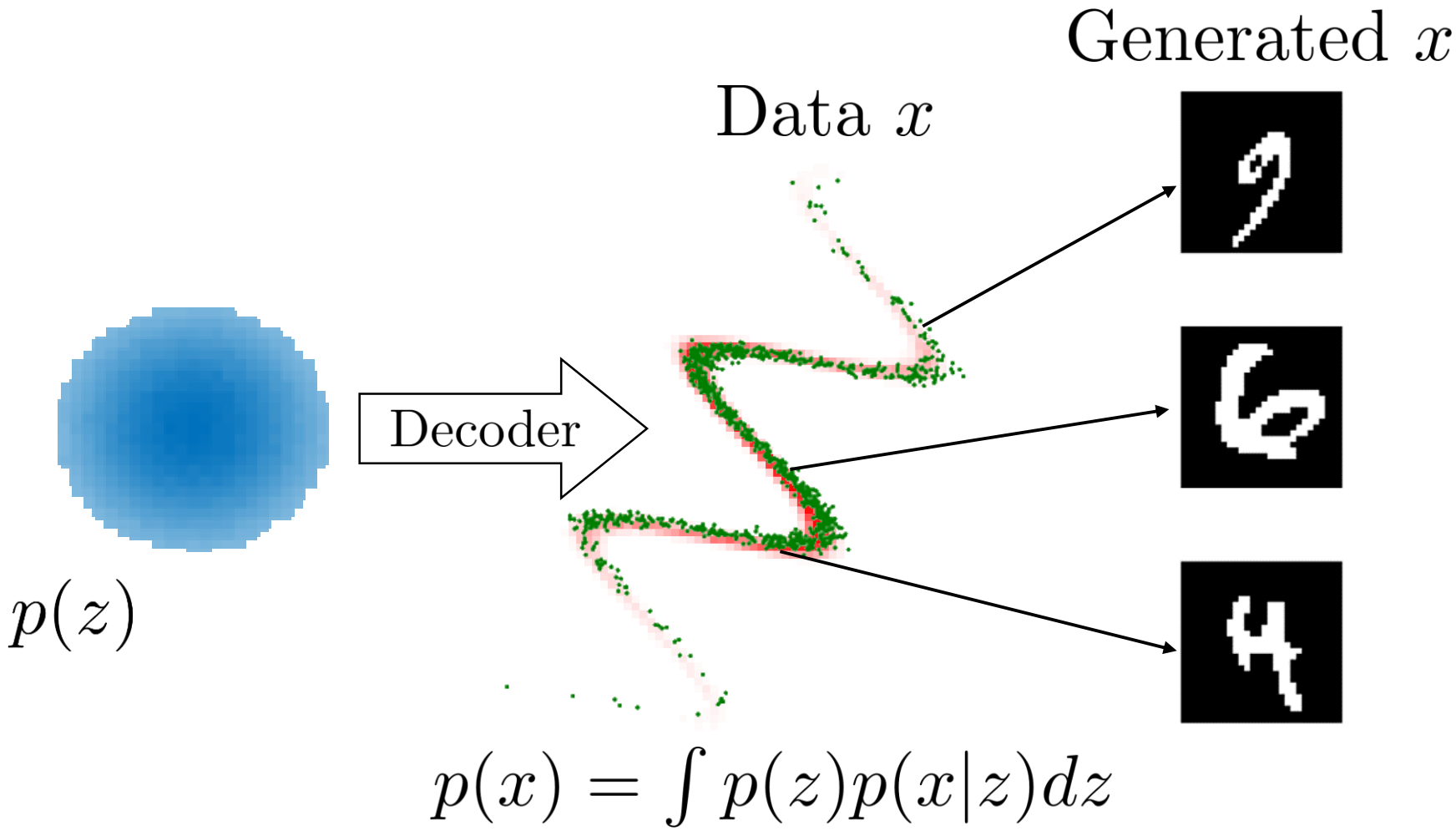
Conditional Variational Autoencoders



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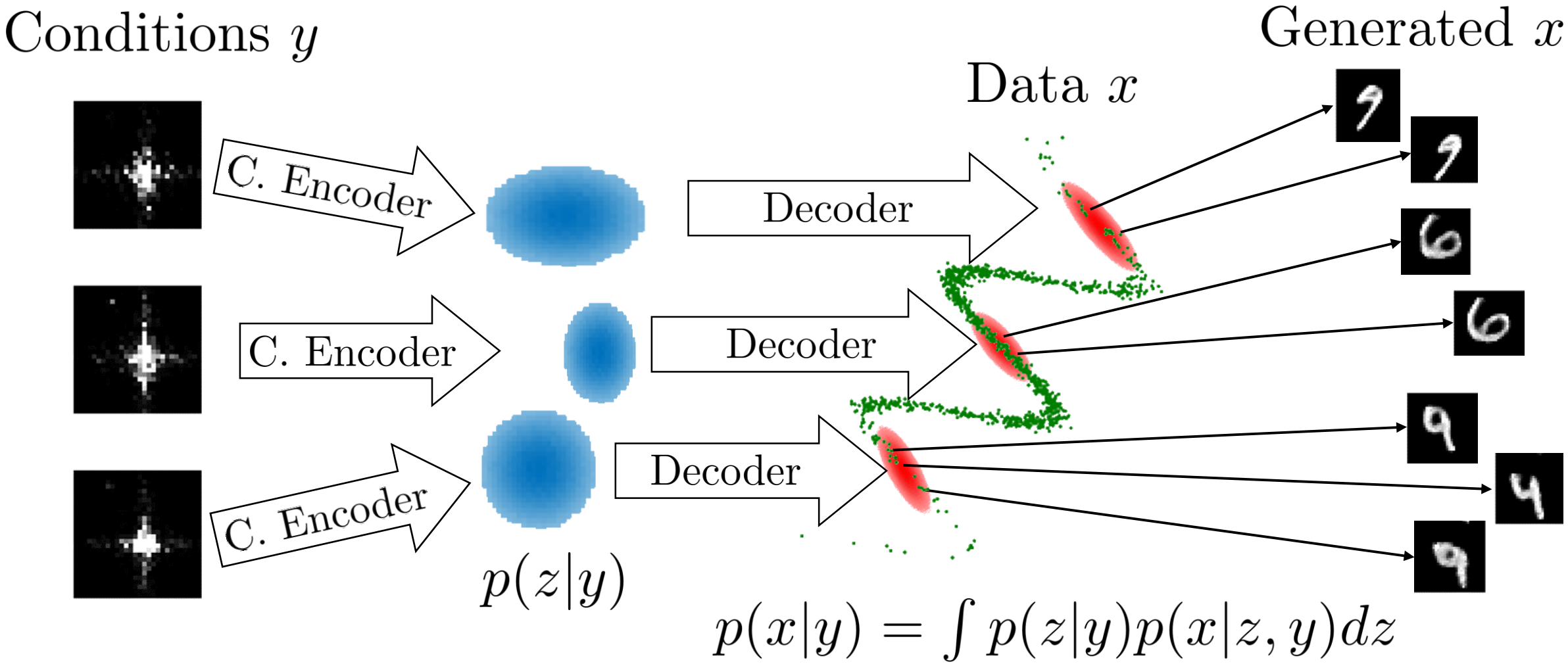
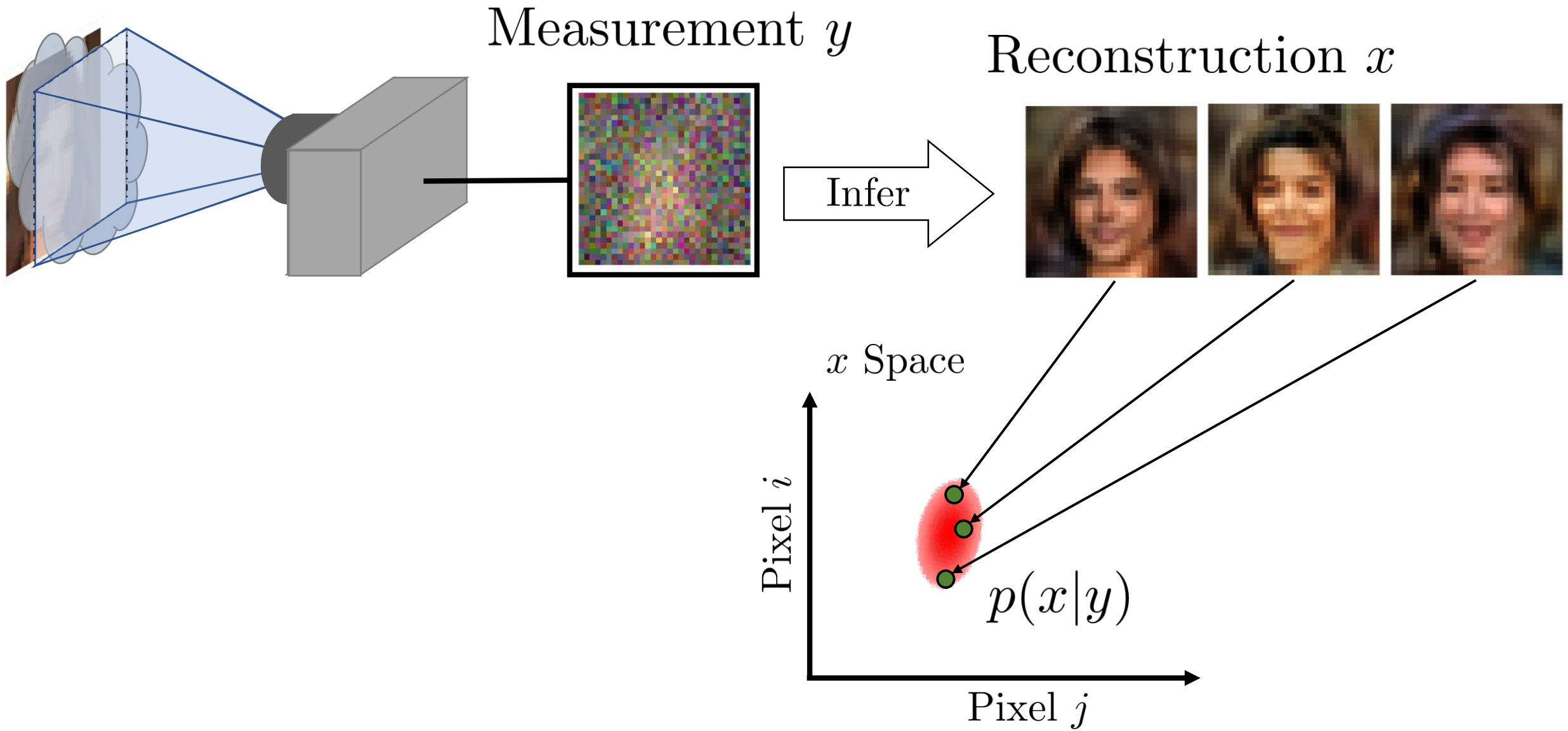
Conditional Variational Autoencoders

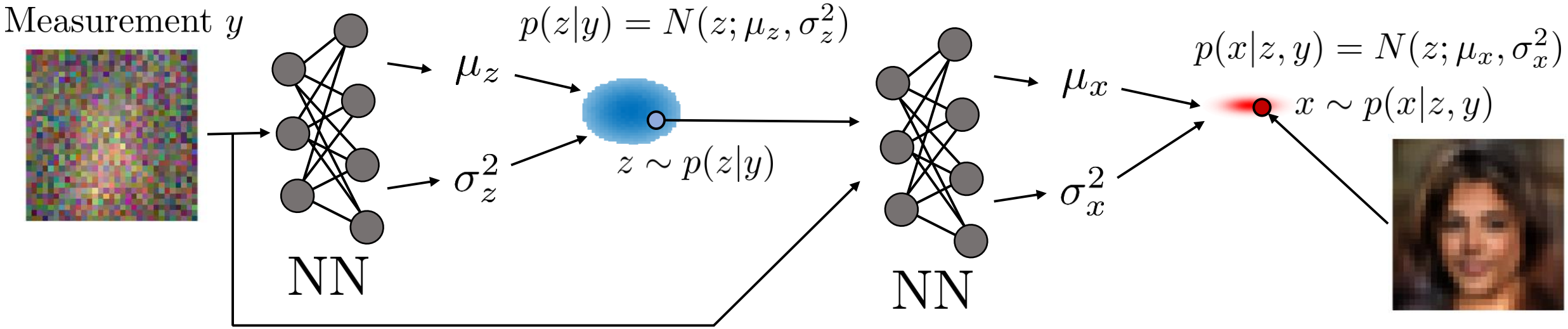


Why We Might Want p(x|y)



Structure of CVAEs

$$p(x|y) = \int p(z|y)p(x|z,y)dz$$



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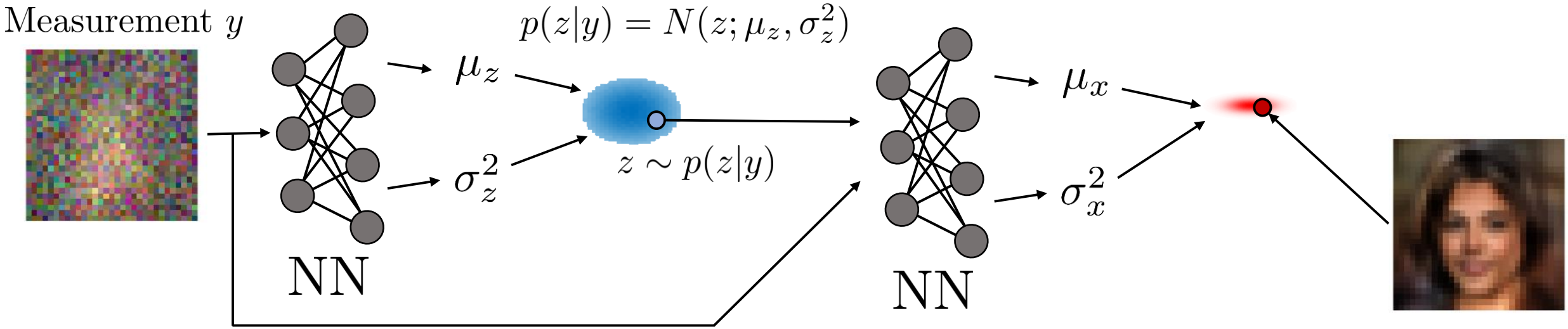

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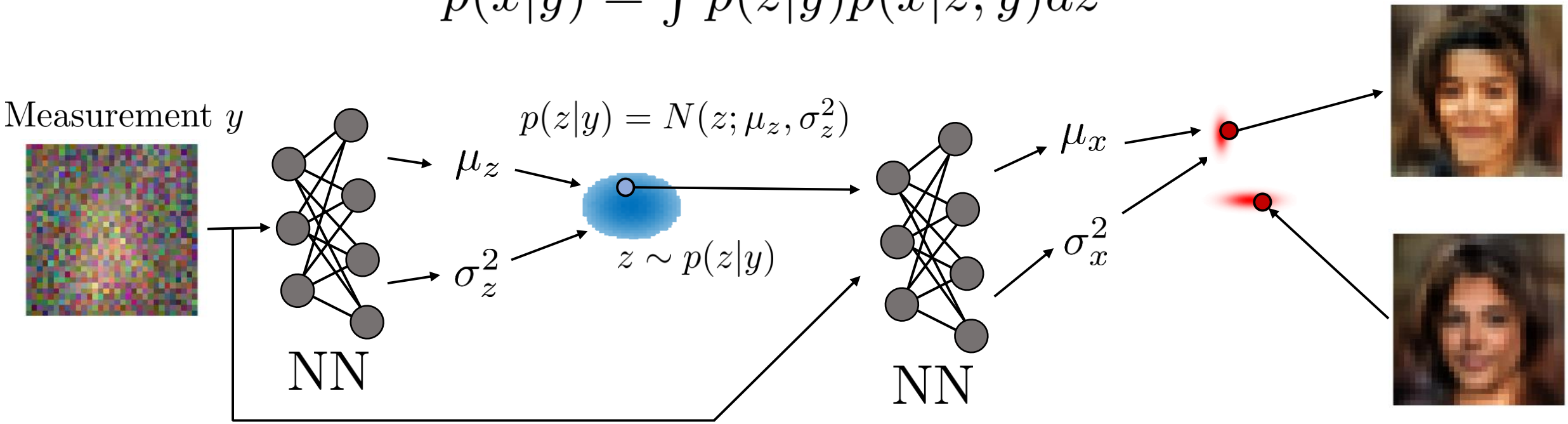

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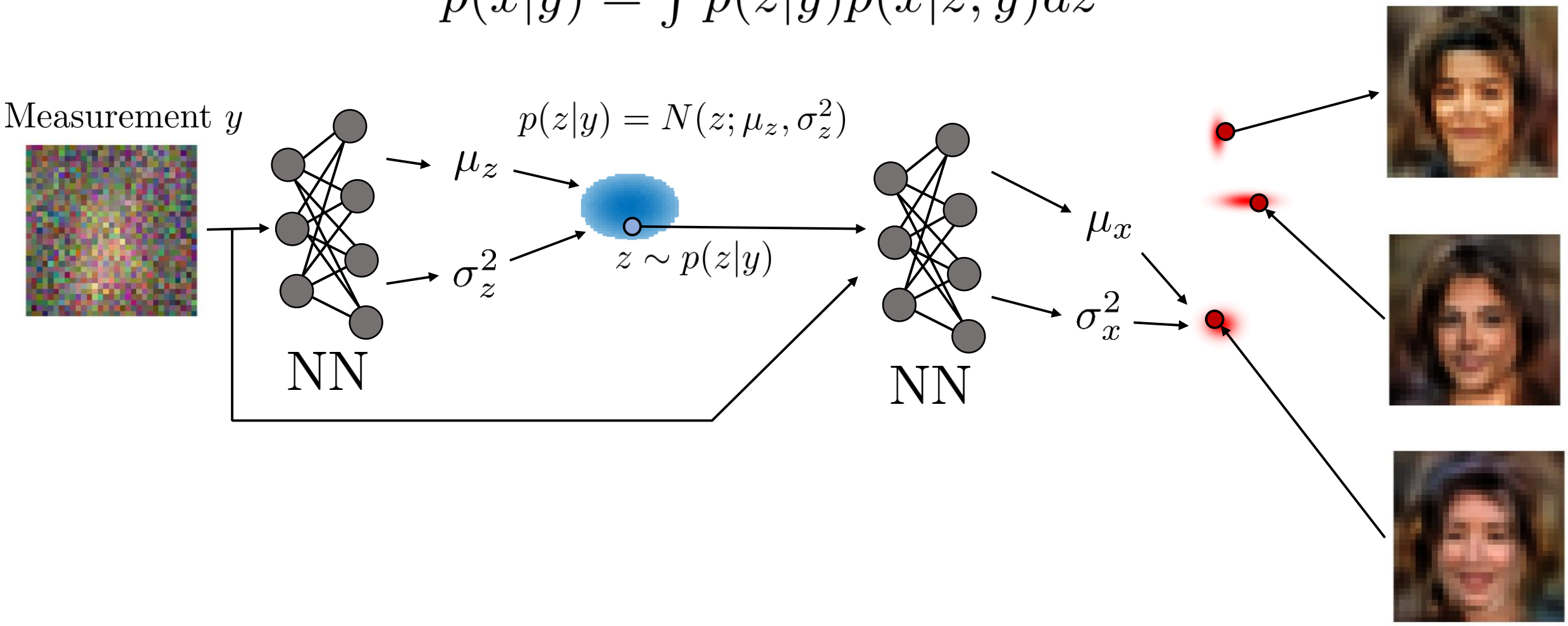
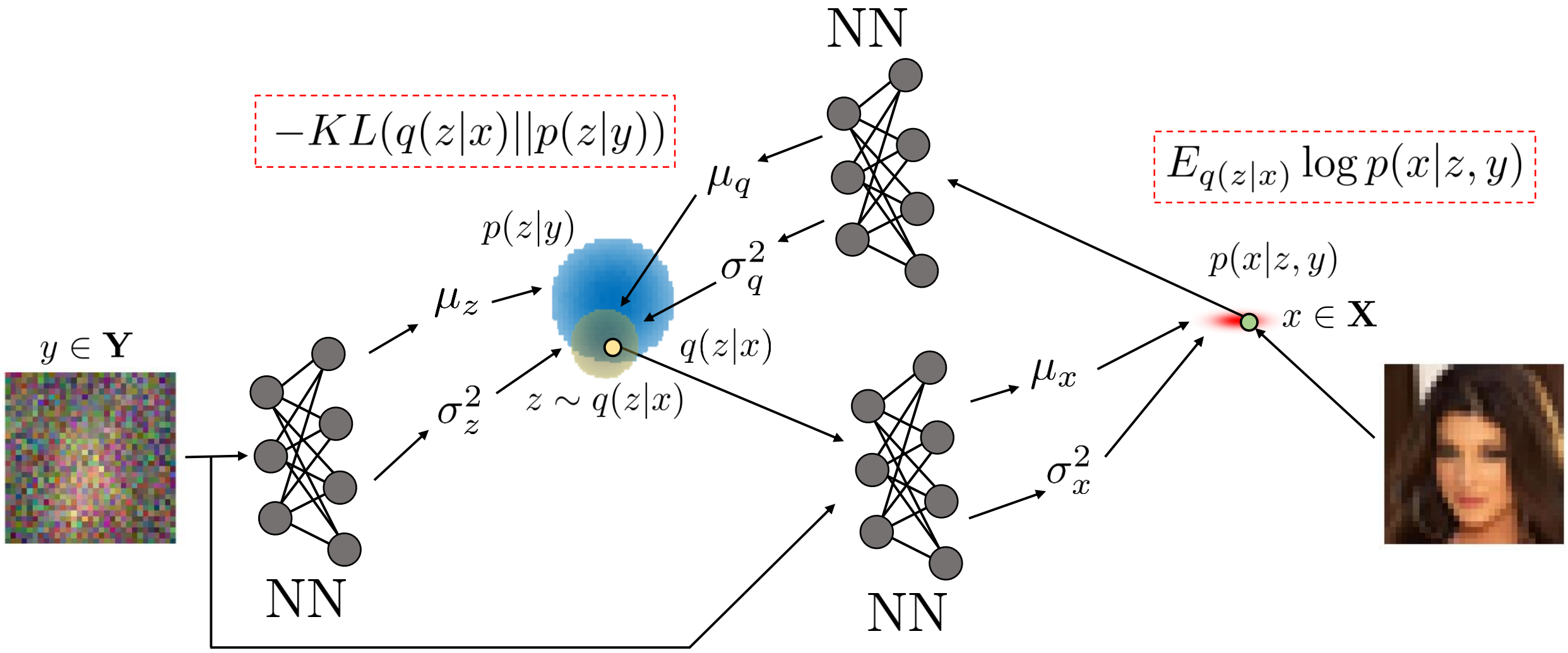
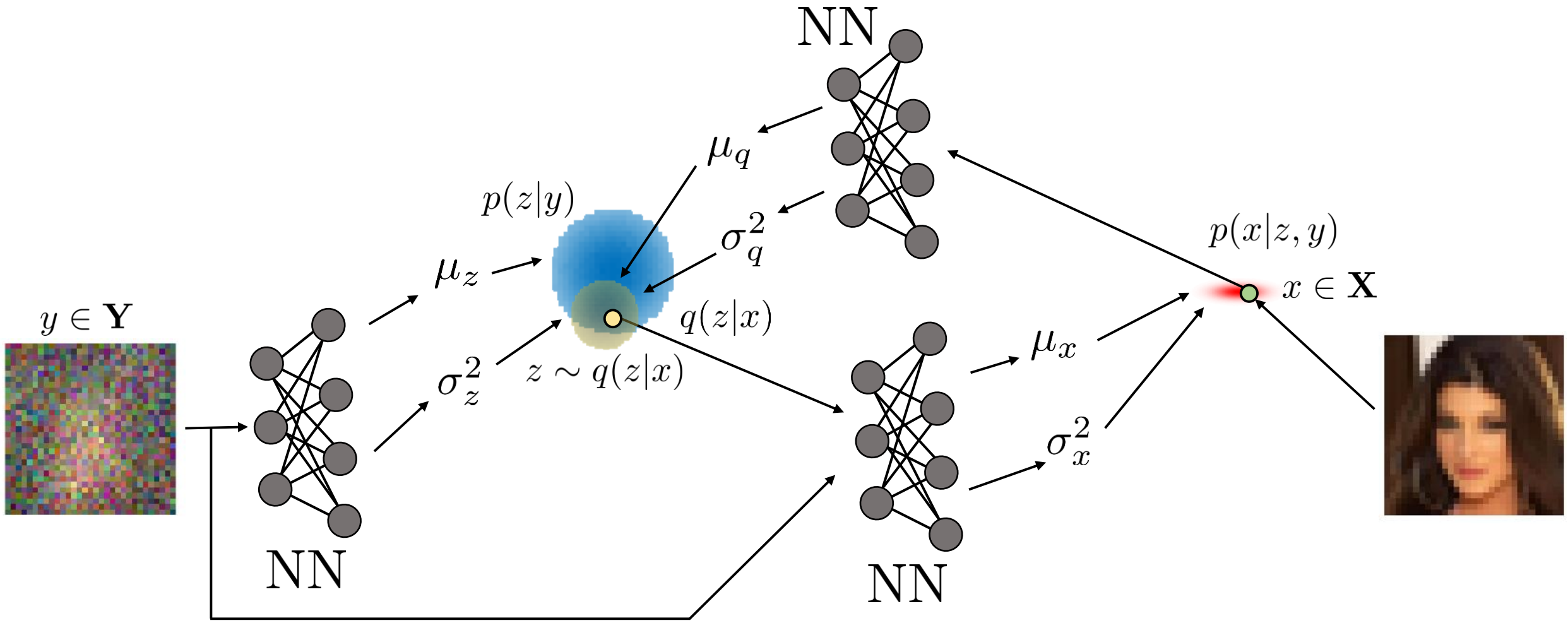


Training a CVAEs



Training a CVAEs

$$\arg\max E_{q(z|x)} \log p(x|z,y) - KL(q(z|x)||p(z|y))$$



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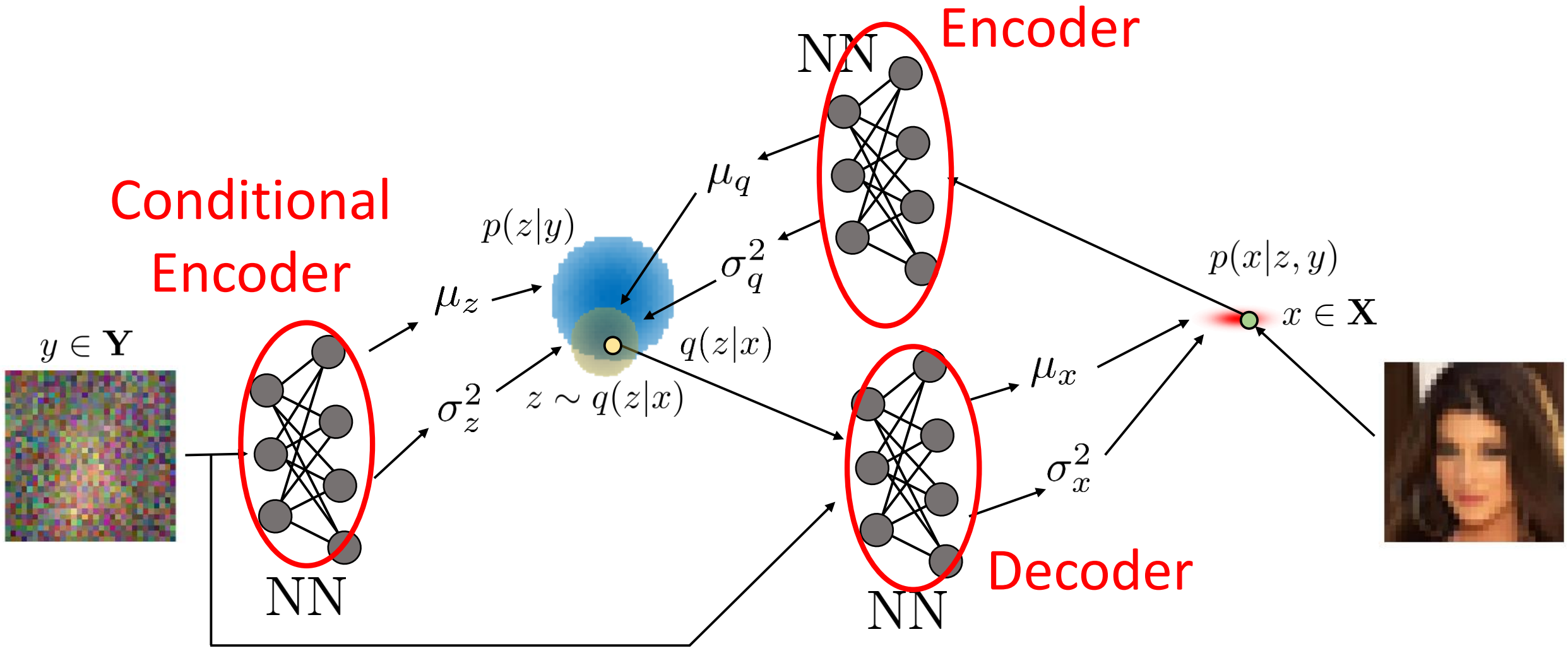
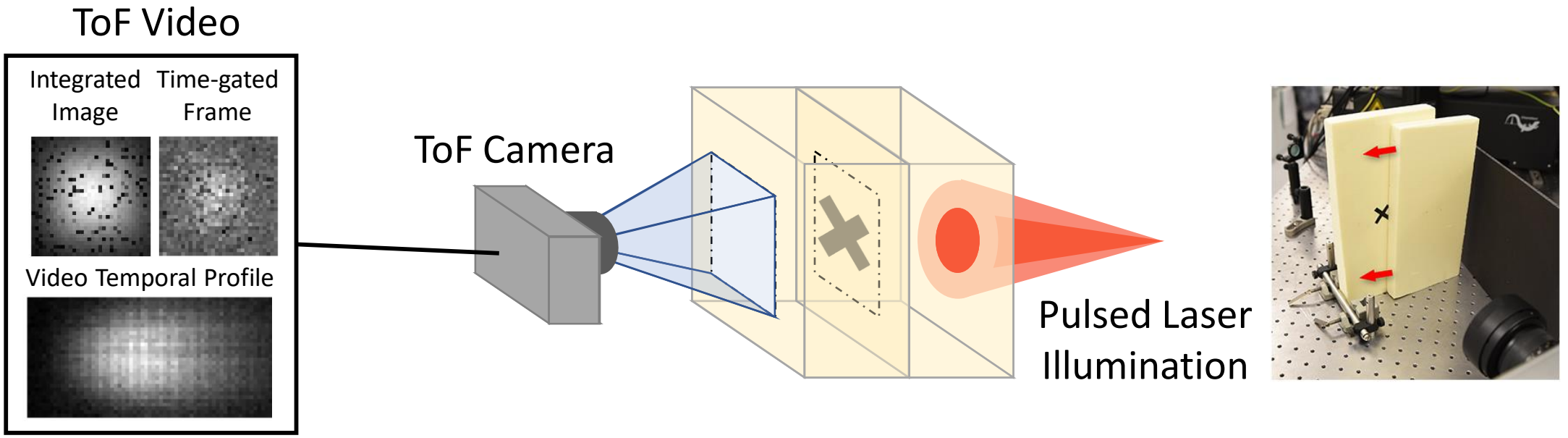
Training a CVAEs



A Practical Example: Diffuse Imaging



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