MACHINE LEARNING IN PHYSICS
TUTORIAL 05 / AUTOENCODERS

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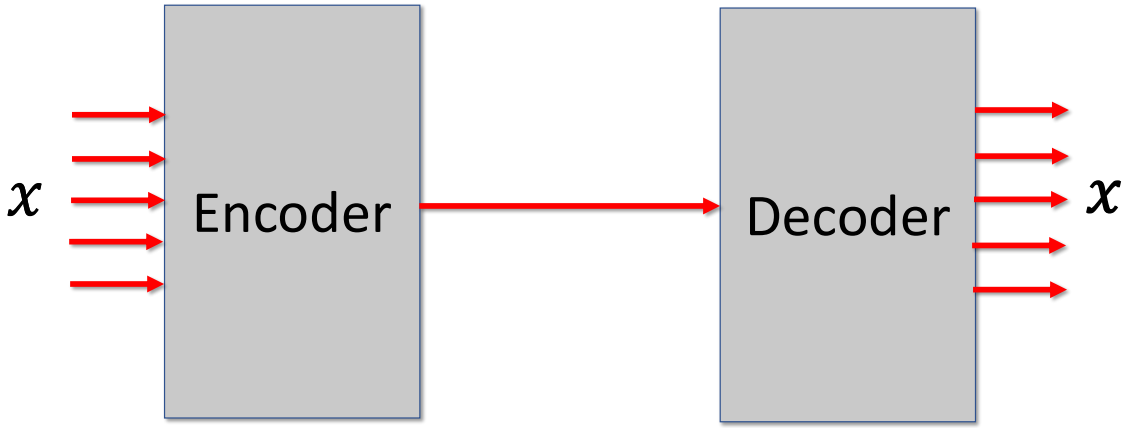
Recap

- The encoder *compresses* the input data $x \in \mathbb{R}^N$

$$h(x) \to z \qquad\qquad g(z) \to x$$

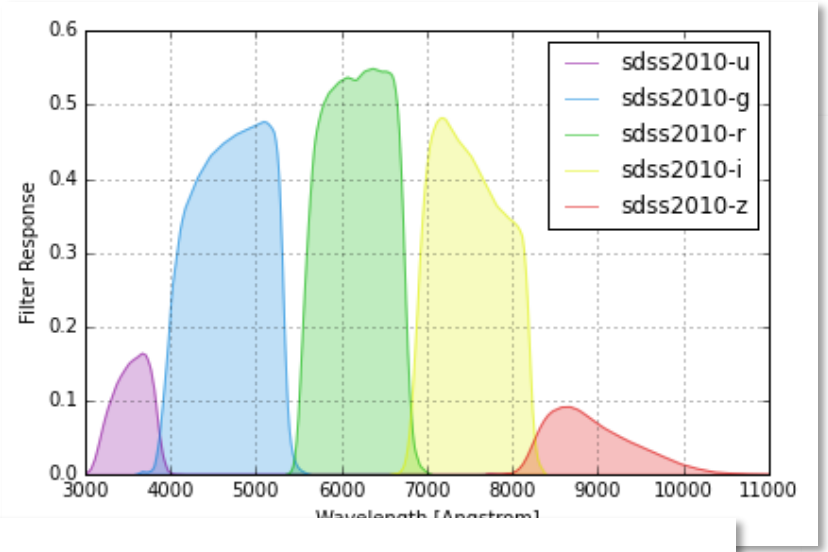
to a latent space

$$z \in \mathbb{R}^n \text{ with } n \ll N$$

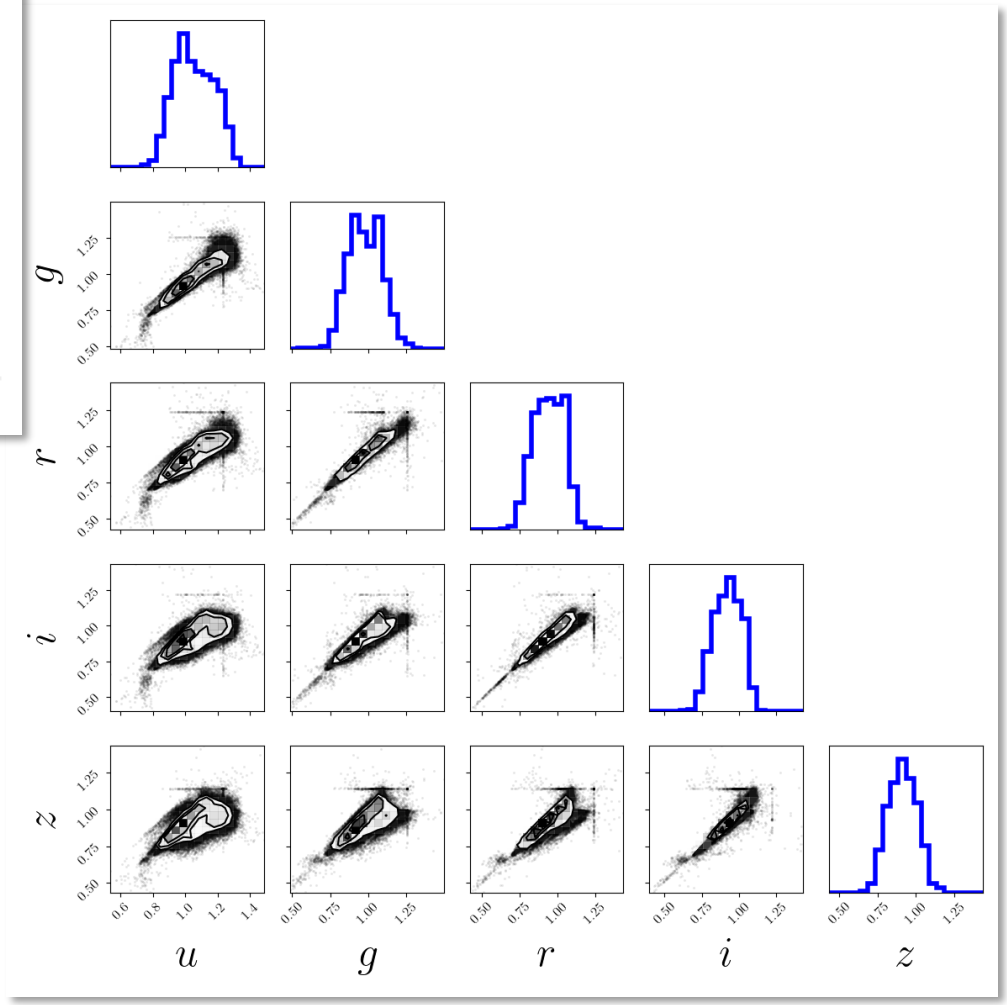


TUTORIAL 05 / AUTOENCODER

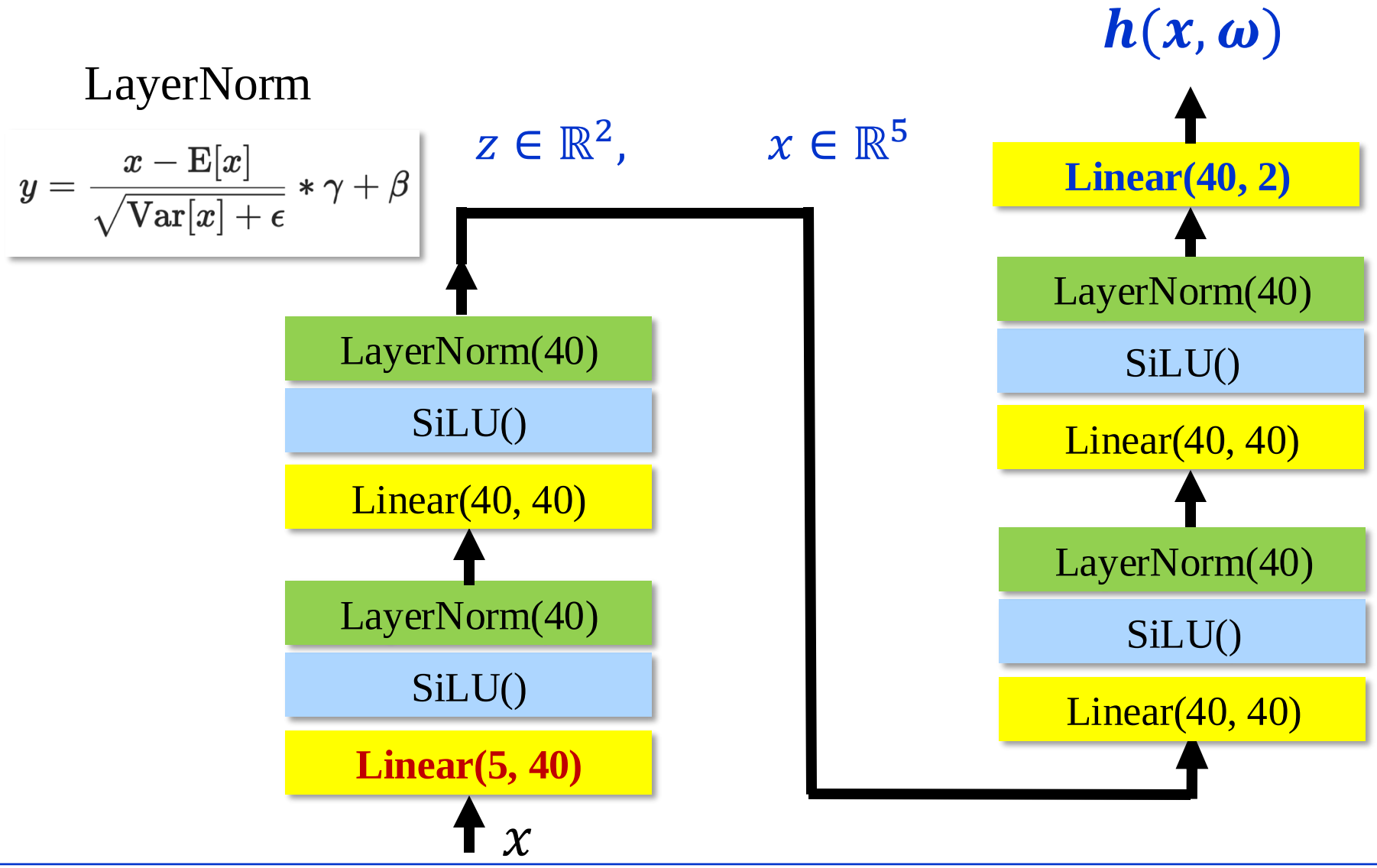
SDSS: Stellar Color Data



Filter	Wavelength (nm)
Ultraviolet (u)	354.3
Green (g)	477.0
Red (r)	623.1
Near Infrared (i)	762.5
Infrared (z)	913.4



Autoencoder: Encoder



Autoencoder: Decoder

Decoder