

# Generative AI Models

## ECE 598 LV – Lecture 5

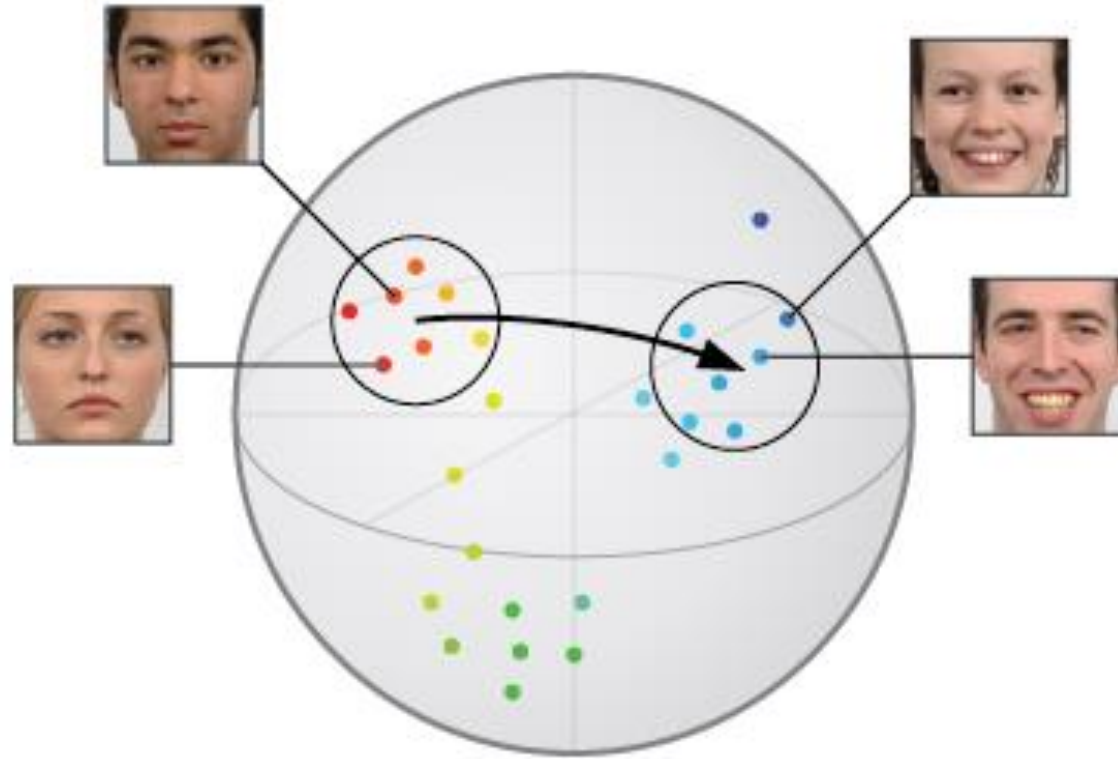
Lav R. Varshney

3 February 2022

Scribing+implementation+theory:

first draft due one week after lecture, but then I'll give feedback, and final draft due one week after that

# Transformations in the latent space



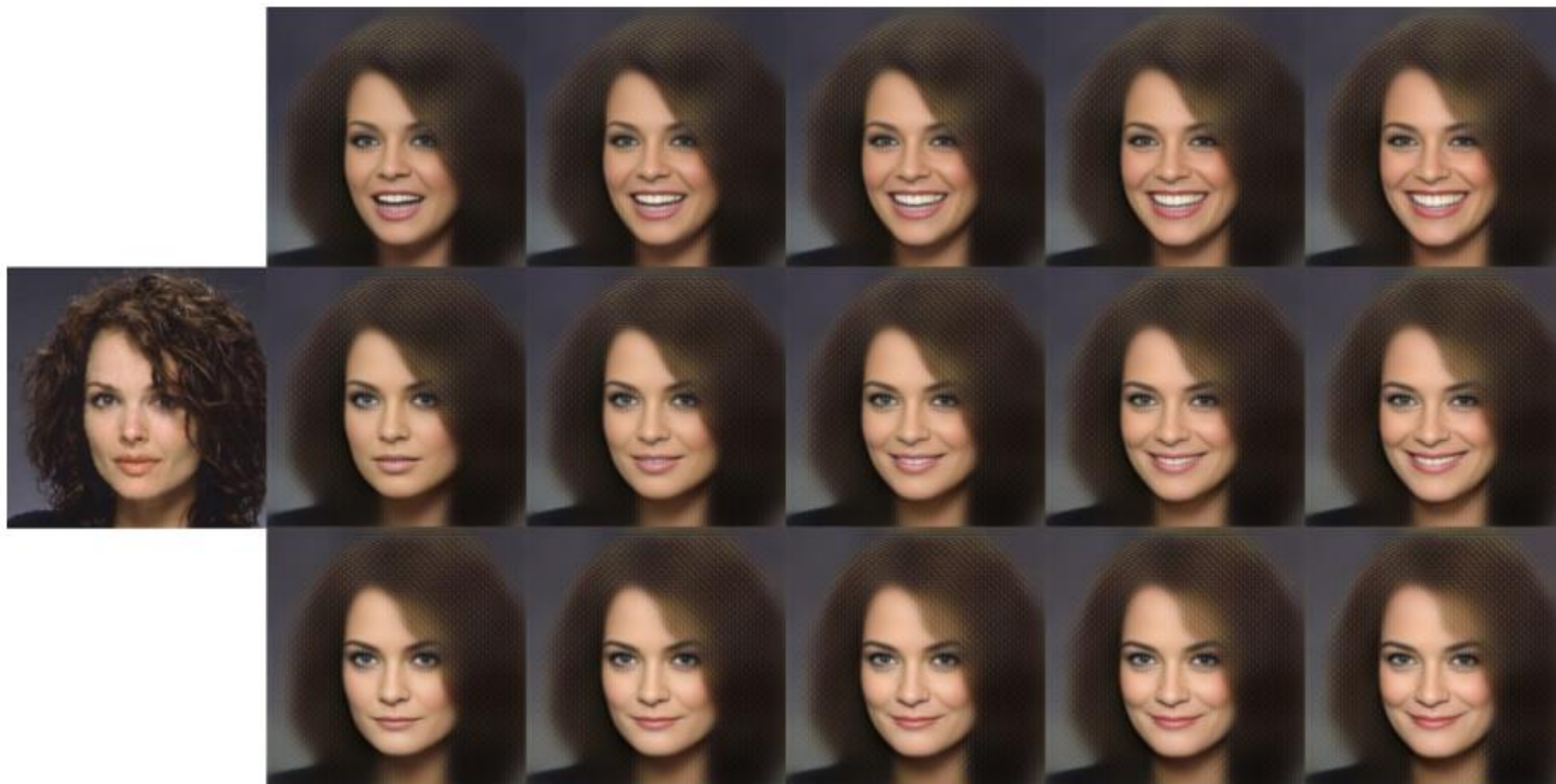
[White, 2016 <https://arxiv.org/abs/1609.04468>]

## Linear transformation in latent space: along smile vector

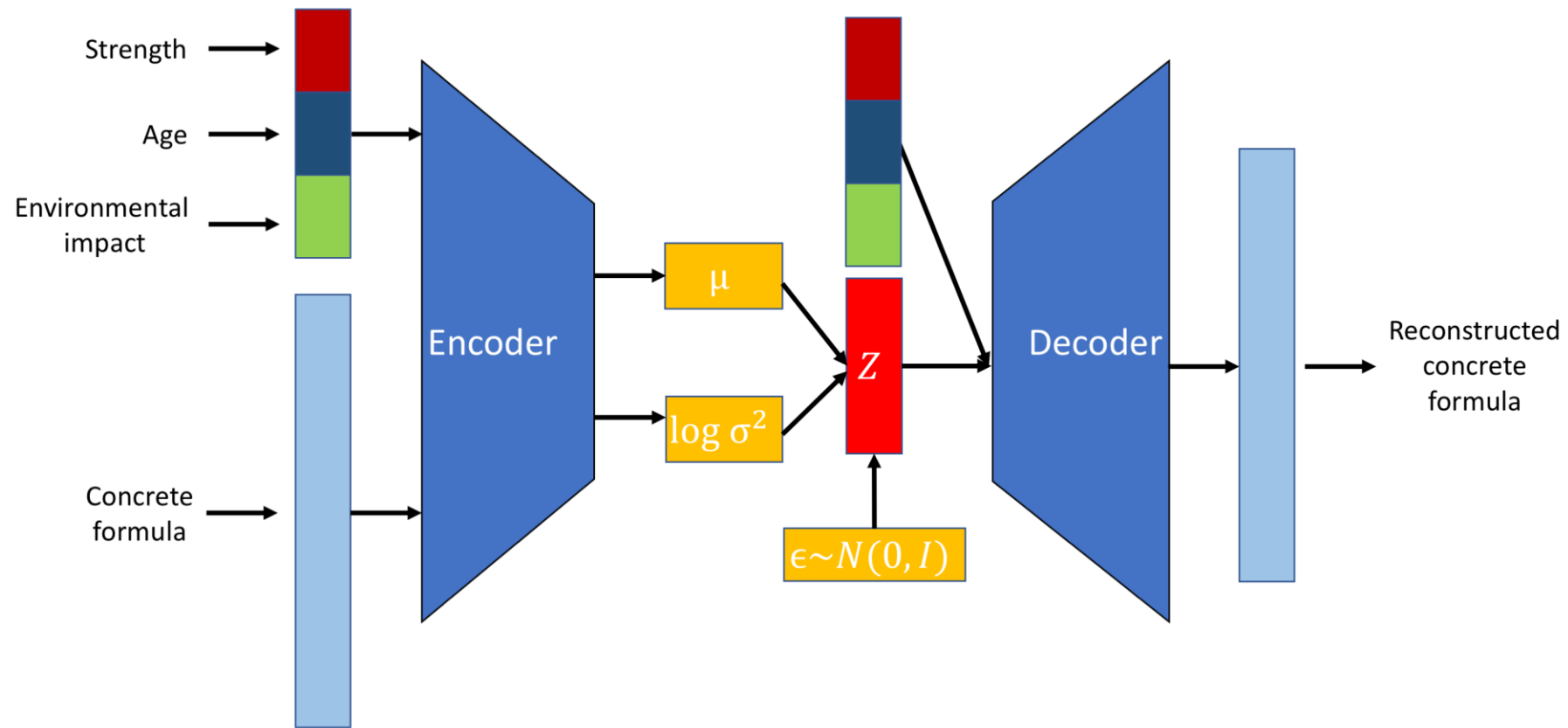


[White, 2016 <https://arxiv.org/abs/1609.04468>]

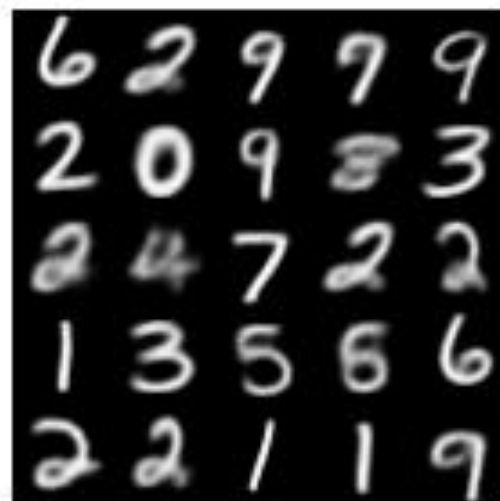
Linear transformation in latent space: along smile vector, mouth open vector



[White, 2016 <https://arxiv.org/abs/1609.04468>]



[X. Ge, R. T. Goodwin, J. R. Gregory, R. E. Kirchain, J. Maria, and L. R. Varshney, "Accelerated Discovery of Sustainable Building Materials," *AAAI Spring Symposium*, March 2019.]



reconstruction

generation