Learning neurological mechanisms of mental disorders with VAEs

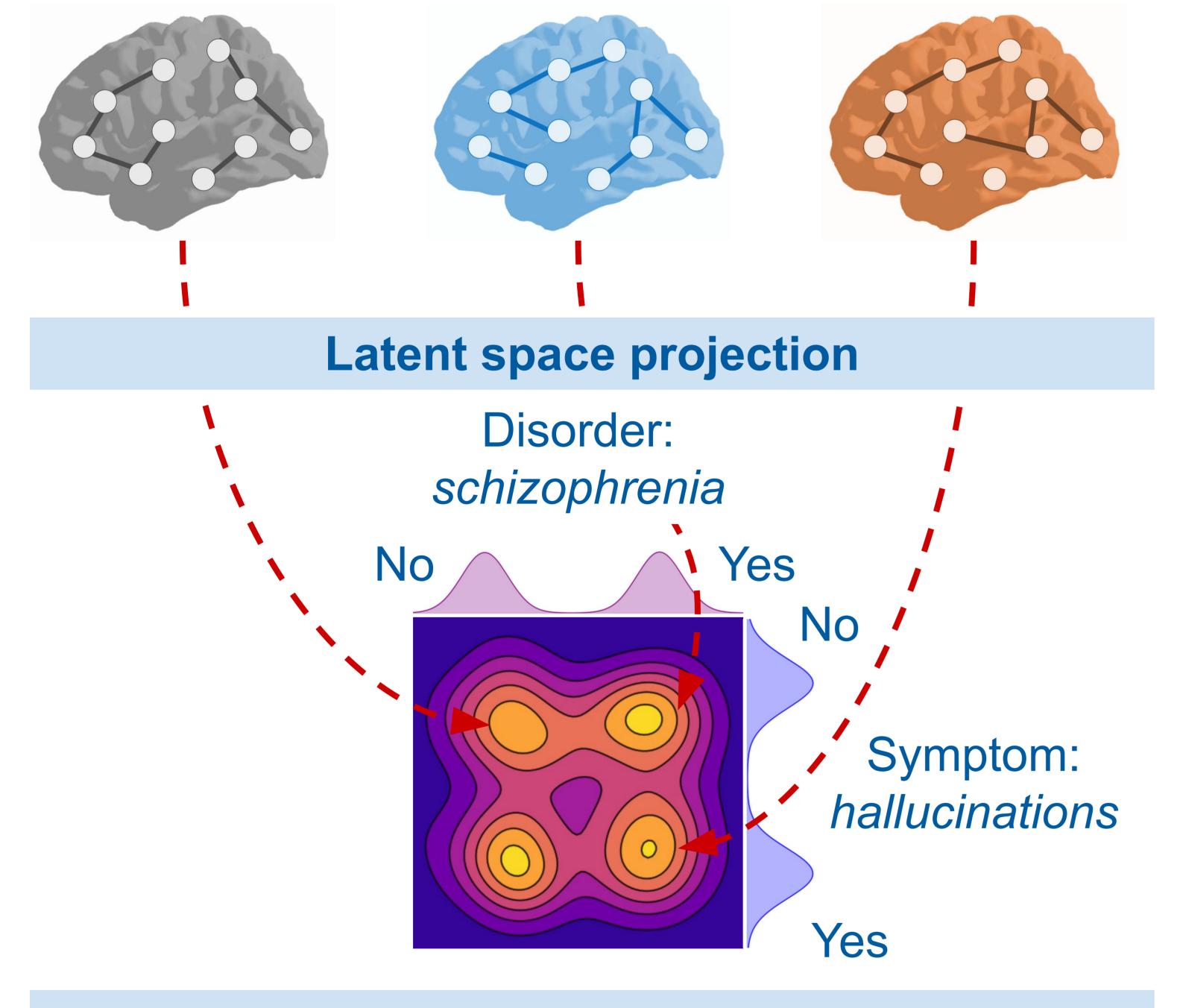


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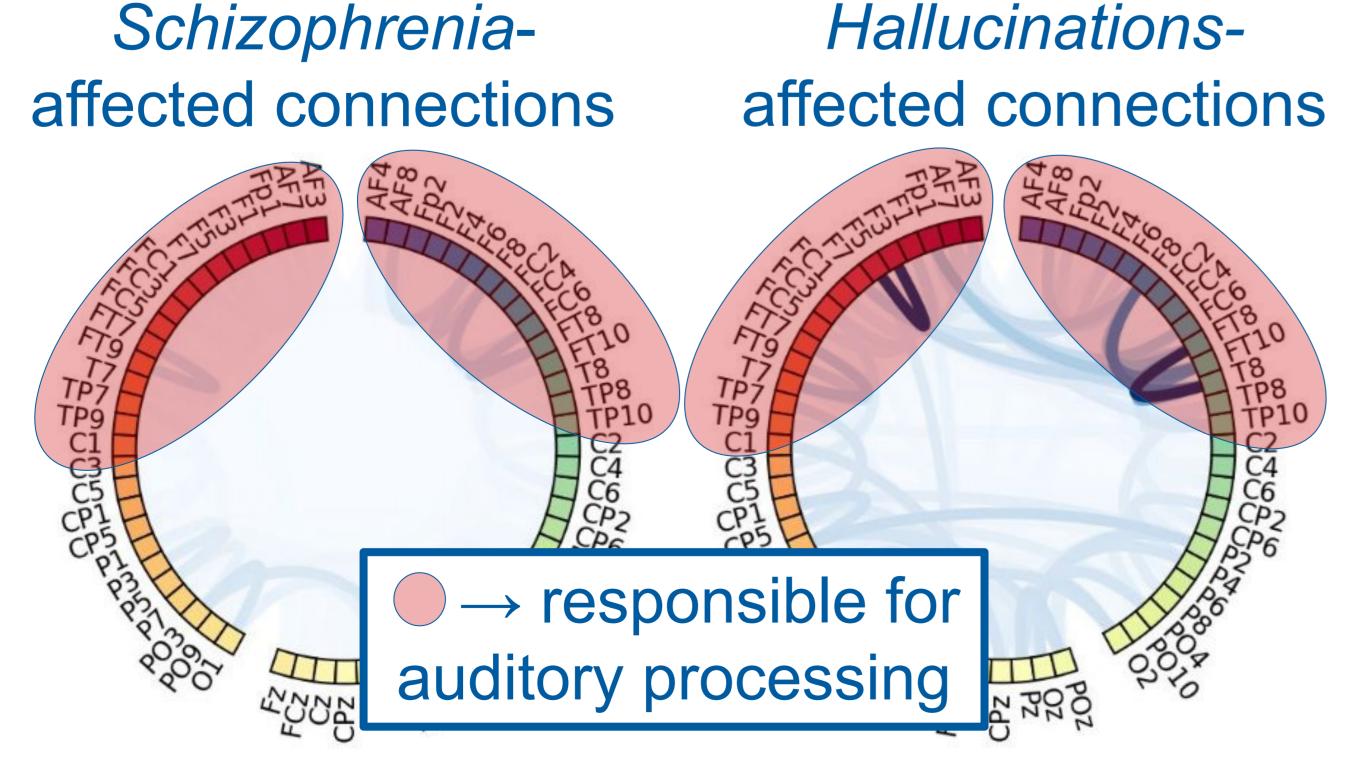
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Bird-eye view

EEG-based functional connectivity

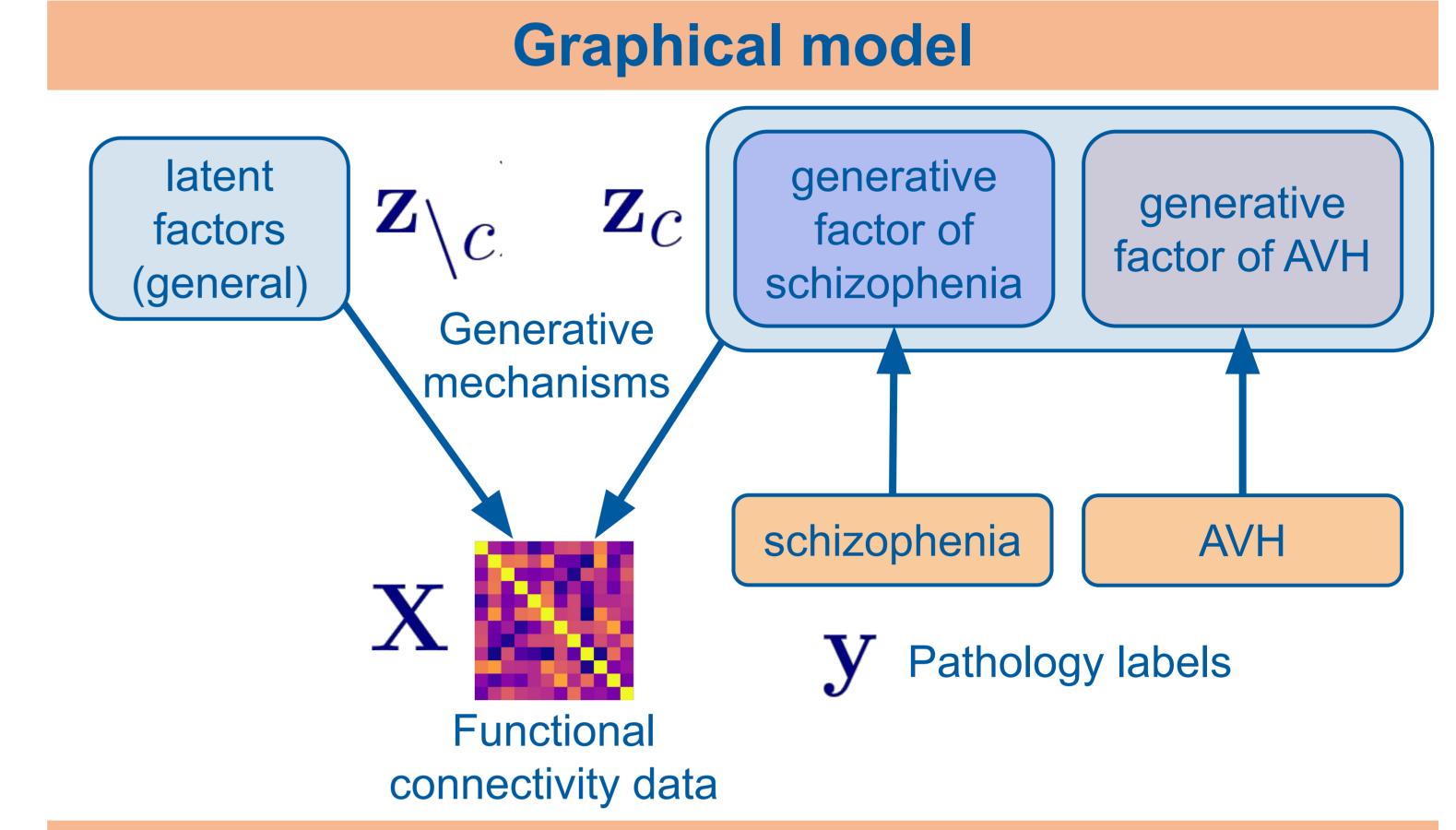


Intervention analysis

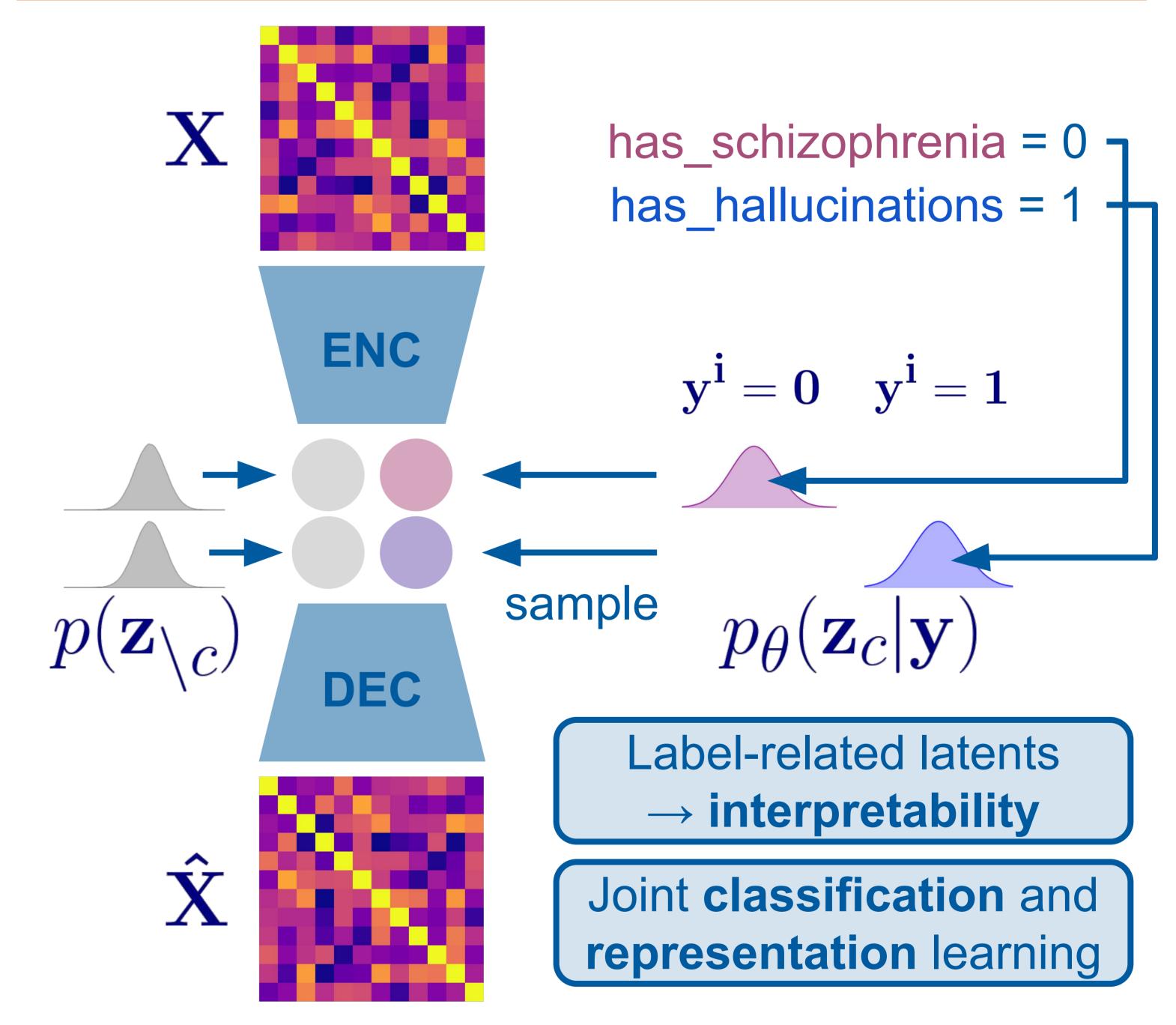


[1] Joy, T., Schmon, S.M., Torr, P.H., Siddharth, N., & Rainforth, T. (2021). Capturing Label Characteristics in VAEs. ICLR.

Methods



Characteristic capturing VAE [1]



Summary

Hybrid generative-discriminative model

Learning disease-related mechanisms consistent with domain knowledge

Robust and interpretable representation of neuroimaging data

Outperforms CNNs on small datasets





