

# Few-shot Learning For Free by Modelling Global Class Structure

Xuechen Li\*, Will Grathwohl\*, Eleni Triantafillou\*, David Duvenaud, Richard Zemel

- Most approaches to few-shot classification use **episodic training**.
- We advocate for a simpler approach: a generative model over **all classes**: a VAE with a **mixture of Gaussians prior**.
- Few-shot learning is done by **variational inference**.
- Our model solves 3 tasks:
  - Few-shot classification
  - Few-shot generation
  - More realistic: **Few-shot integration**.
- Omniglot experiments:
  - On par with state-of-the-art on few-shot classification.
  - Largely outperform our baseline on few-shot integration.

