## Introduction

This document uses the following conventions when depicting graphical models:

- Shaded vertices represent observed random variables.
- Half-shaded vertices represent variables that can be either observed or random. Empty vertices represent latent random variables.
- Edges signify conditional dependency.
- Rectangles ("plates') represent independent replication.

For an overview graphical models see Graphical models. M. I. Jordan. Statistical Science (Special Issue on Bayesian Statistics), 19, 140-155, 2004. PDF available at: http://www.cs.berkeley.edu/~jordan/ papers/statsci.ps

For a review of the probability distributions used by the scvi-tools models, see: F. William Townes Review of Probability Distributions for Modeling Count Data (2020).1

## References

Townes, F. William. "Review of Probability Distributions for Modeling Count Data," 2020. http://arxiv.org/abs/2001.04343.

<sup>&</sup>lt;sup>1</sup> Townes, "Review of Probability Distributions for Modeling Count Data," 2020, http://arxiv.org/abs/2001. 04343.