

Package: zinbcdpmm (via r-universe)

October 23, 2026

Title Bayesian ZINB-Ordinal Joint Model with CDPMM Random Effects

Version 0.1.0

Description Fits a Bayesian joint model for longitudinal zero-inflated negative binomial and ordinal outcomes with CDPMM random effects, as in Liang and Du.

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Encoding UTF-8

LazyData false

RoxygenNote 7.3.0

Depends R (>= 4.1.0)

Imports BayesLogit, mvtnorm, MCMCpack, truncnorm, loo, coda, stats

Suggests testthat

Repository <https://liang-shuqing.r-universe.dev>

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RemoteUrl <https://github.com/liang-shuqing/zinb-ordinal-cdpmm-code>

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fit_zinb_ordinal	<i>Fit joint ZINB-ordinal model with CDPMM random effects</i>
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Description

Thin wrapper around fit_joint_model.

Usage

```
fit_zinb_ordinal(data, chain = 2000, burn = 1000, thin = 5, G = 8, ...)
```

Arguments

data	A list / zinbcdpmm_data from simulate_zinb_ordinal or with the same fields as generate_data output.
chain	MCMC iterations.
burn	Burn-in.
thin	Thinning interval.
G	Truncation level of the stick-breaking CDPMM (default 8).
...	Additional arguments passed to fit_joint_model.

Value

An object of class zinbcdpmm_fit.

print.zinbcdpmm_fit	<i>Print and summary methods for zinbcdpmm fits</i>
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Description

S3 methods for objects of class zinbcdpmm_fit.

Usage

```
## S3 method for class 'zinbcdpmm_fit'
print(x, ...)
## S3 method for class 'zinbcdpmm_fit'
summary(object, ...)
## S3 method for class 'summary.zinbcdpmm_fit'
print(x, digits = 3, ...)
```

Arguments

x	A zinbcdpmm_fit or its summary.
object	A zinbcdpmm_fit.
digits	Digits for printing.
...	Unused.

simulate_zinb_ordinal *Simulate longitudinal ZINB + ordinal data*

Description

Thin wrapper around generate_data. Returns an object of class zinbcdpmm_data.

Usage

```
simulate_zinb_ordinal(
  n = 100,
  nis = 10,
  seed = 2026,
  random_nis = FALSE,
  nis_range = 1:20,
  scenario = 1,
  C = 5,
  re_dist = "normal",
  mvt_df = 4,
  rho = NULL,
  zi_intercept = NULL,
  ...
)
```

Arguments

n	Number of subjects.
nis	Visits per subject (scalar or length-n vector).
seed	RNG seed.
random_nis	If TRUE, sample visit counts from nis_range.
nis_range	Integer range for random visit counts.
scenario	Simulation scenario (1 or 2).
C	Number of ordinal categories.
re_dist	Random-effects truth: \"normal\", \"mixture\", or \"mvt\".
mvt_df	Degrees of freedom when re_dist = \"mvt\".
rho	Common RE correlation (default 0.5).
zi_intercept	Optional override of zero-inflation intercept.
...	Passed to generate_data.

Value

A list with class `zinbcdpmm_data`.

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