Preprint template

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Abstract: This template is used by the Poisot lab at Université de Montréal to write manuscripts using github. It uses github actions as a way to generate a website that can be annotated using hypothes.is, a PDF document for copy-editing and submission to journals, and a PDF document for submission to preprint servers. At every push on the master branch, the whole series of documents will be updated automatically.

Outline

Introduction: - Predictive ecology and predicting interactions - Data is scarce - Idea you can train a predictive model on simulated data and apply it to real data and it makes good predictions - It might seem wild that this can work, but here we show ....

Methods

- concept figure with (niche model, mpn) instead of (hypoth 1, 2)
- Empirical data from Streams in NZ
- Julia 1.6, EN, Flux, etc.

For each empirical network, we predict the interactions by training a neural network — structure of neural net todo . For each of these neural nets, we do not train them on any real data, but instead only on simulated networks from each of the candidate models with S_i species and betabinom connectance.

Summary stats to describe network properties are inevitably necessary.

- abc discussion and history
- generative learning discussion and history

explain why you can't predict interaction between two species based on anything but summary stats.

We generate networks from various candidate models: cascade, niche, mpn, etc.

Results

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Discussion