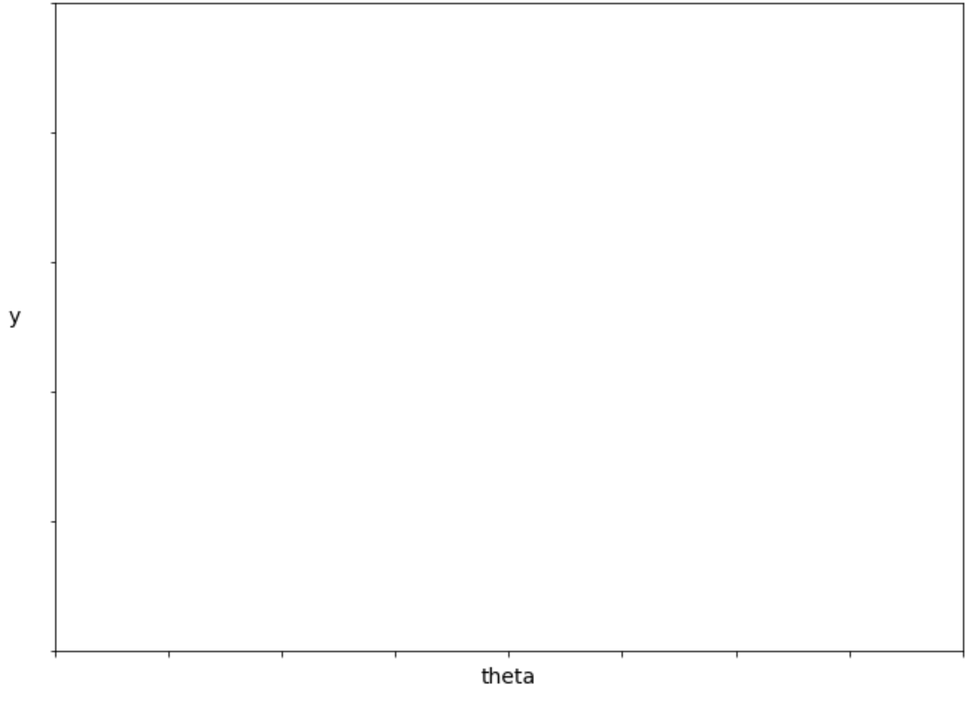
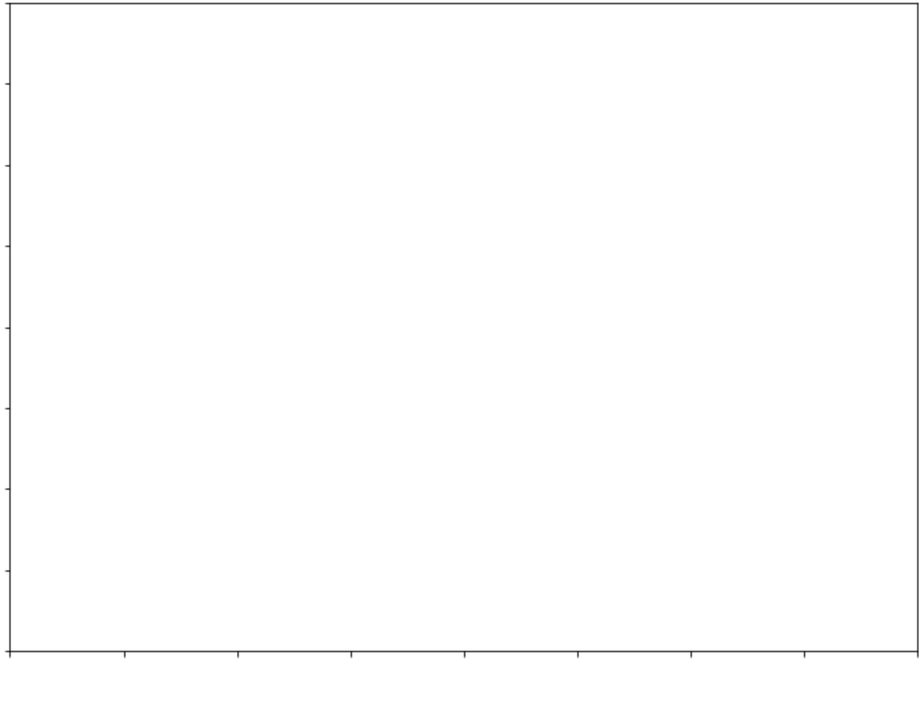
Synthetic likelihood

Example

- $p(y^{\text{obs}} \mid \theta) \approx \text{Normal}(x \mid \hat{\mu}_N(\theta), \hat{\Sigma}_N(\theta))$


y
theta



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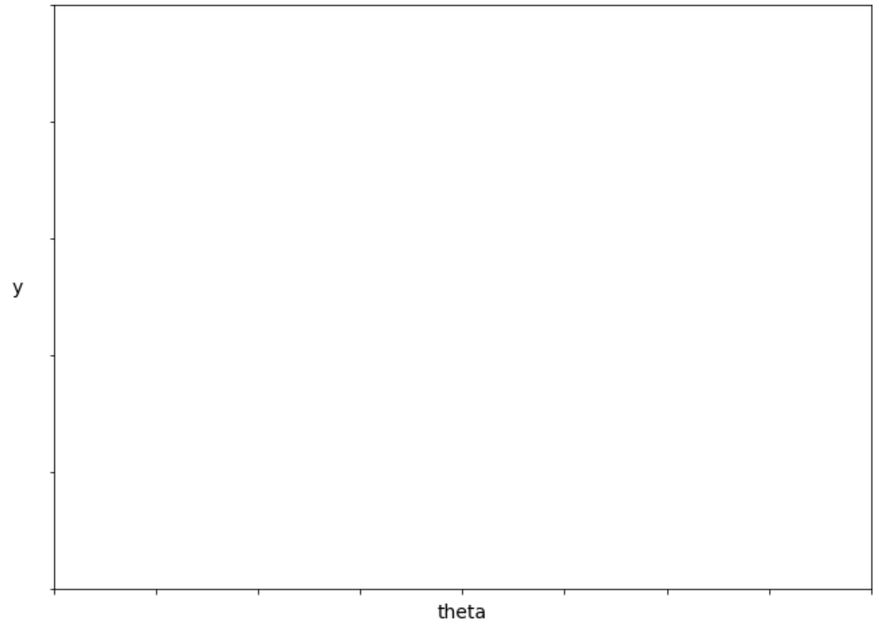

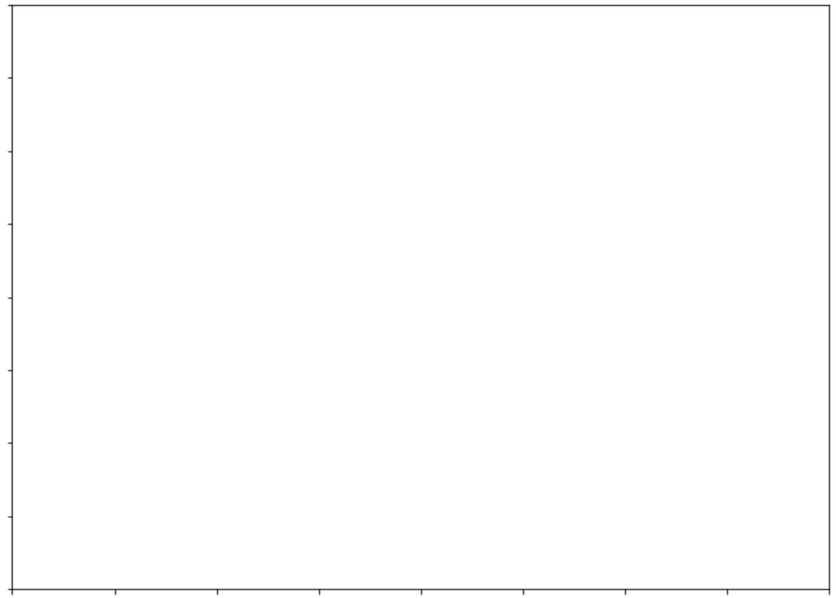

Burden of keeping it real

- More computational resources vs. more complex simulations
- 100,000s of simulations may be infeasible in real applications
- Large portion of new LFI research is to infer parameters with less simulations
  - Enable more complex simulators
  - Make LFI faster