

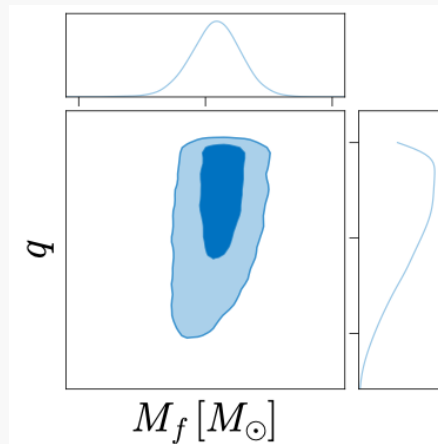


GW Event Catalog

Event	Mass 1	...	Posterior
GW150914	$35.6^{+4.7}_{-3.1}$...	
GW151012	$23.2^{+14.9}_{-5.5}$...	
...			~MB

Posterior



Lightweight Catalog

High-fidelity
Neural network weights



$\sim \mathcal{O}(10^1 \text{KB})$

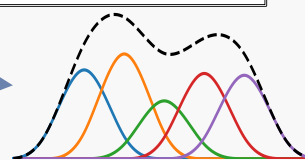
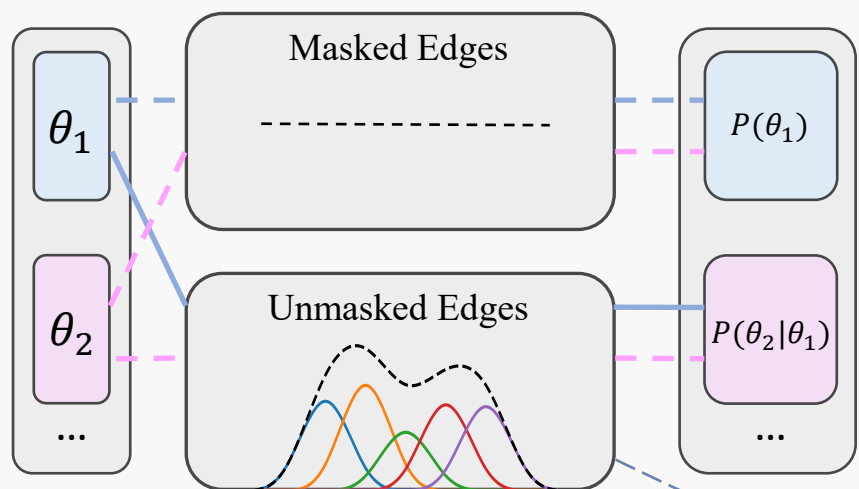
Lite format
Symbolic expressions

$p(\theta)$

$\sim \mathcal{O}(1 \text{KB})$

Kolmogorov-Arnold Network based neural density estimator

Input
posterior
samples
 $\{\theta\}$



Symbolic fitting

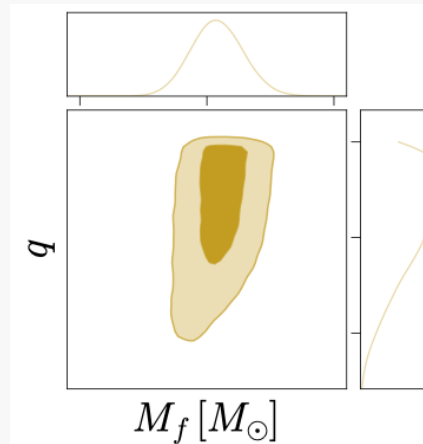
$$y(x) = 2x^2 + x ?$$

Output
posterior probability form

$$p(\theta) = ?$$

KAN
Density
Estimator

Resampling



Hierarchical Bayesian inference ...