

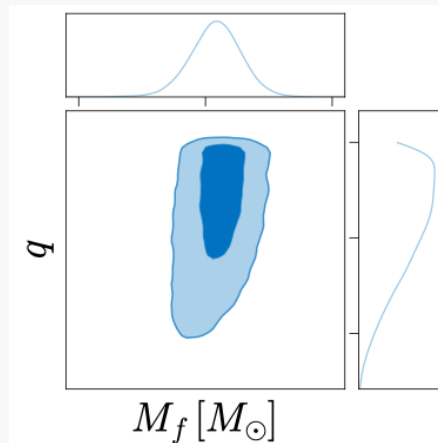



GW Event Catalog

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

Posterior



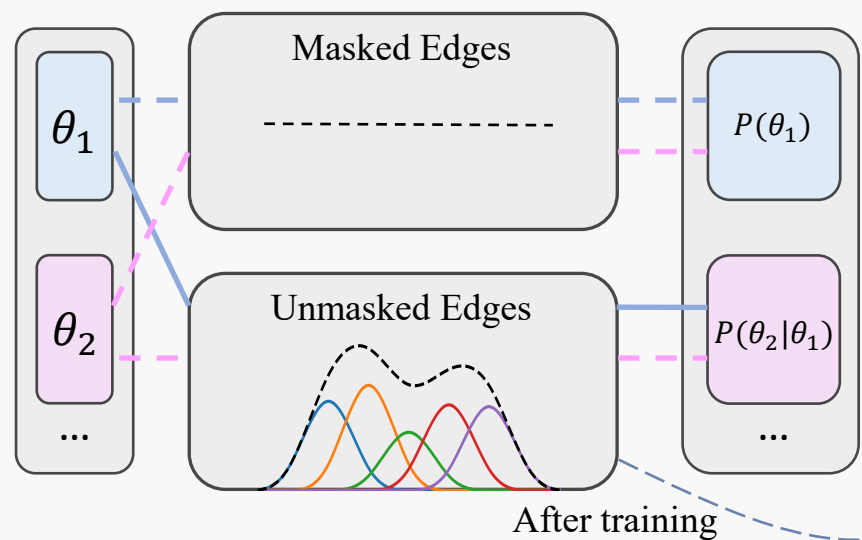
Lightweight Catalog

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

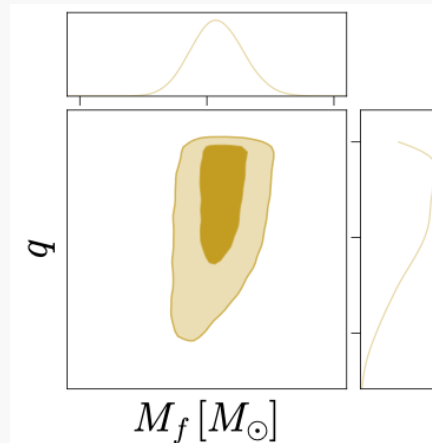
Input
posterior
samples
 $\{\theta\}$



Symbolic fitting
 $y(x) = 2x^2 + x ?$
Output
posterior probability form
 $P(\theta) = ?$

KAN
Density
Estimator

Resampling



Hierarchical Bayesian inference ...