

DNF counting

Rare events

- if p small, huge sample size
- importance sampling biases samples toward event.

Complexity:

- $\#\mathcal{P}$ -complete.
- PRAS, FPRAS

Coverage algorithm

- given $A_i \subseteq V$, count $\cup A_i$
- problem: random $a \in V$ too rarely satisfies
- work in $\uplus A_i$
 - size known
 - can sample uniformly
 - dense subset of right size
- assignment a , satisfies s_a clauses.
- $\sum_a (s_a/n)(1/s_a)$
- prob. OK at least $1/m$, so m trials suff.
- unbiased estimator