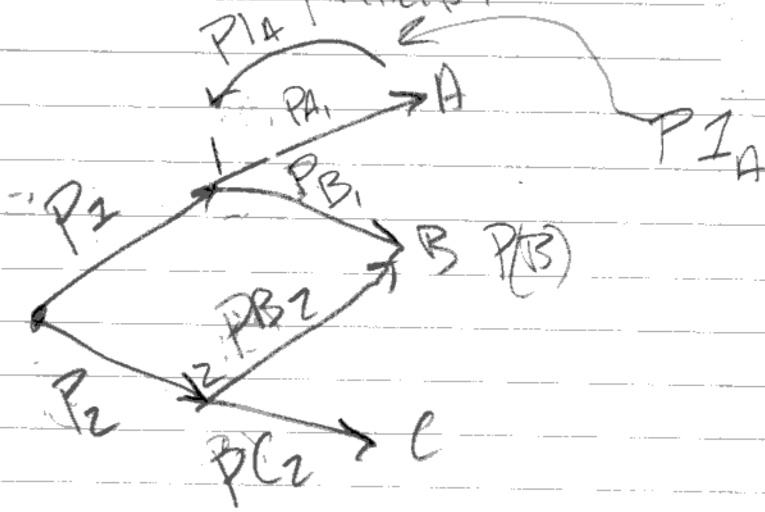
Probability

Hmm

Basyian ⟶

indifference principle



HMM ⟷ NN w/ Back Prop

Combinatorial Explosion on # of variables
vs # of observations
think leafs on hierarchical tree.

Baysian ⟶ Markov

Basyian

$PB_O = \frac{3}{4}$
$PB_A = \frac{1}{3}$ $P_{B\bar{A}} = \frac{3}{4}$
$PA_O = \frac{3}{4}$

$\bar{B}$	$\bar{B}$	B	B	B	$\bar{B}$	$\bar{B}$
A	A	A	$\bar{A}$	$\bar{A}$	$\bar{A}$	$\bar{A}$
O	O	O	O	O	O	O

$PA_B = \frac{1}{3}$ $P\bar{A}_B = \frac{1}{2}$ calculated by Baysian
$PA_{\bar{B}} = \frac{3}{4}$ $P\bar{A}_{\bar{B}} = \frac{1}{2}$

Issues:

Calc PA_B requires solid PA_O AND PB_A

Each layer's Probability stability depends on previous layers

How do we know when we have covered enough of a sample space to accurately represent Probability?