Viterbi Algorithm: An Example
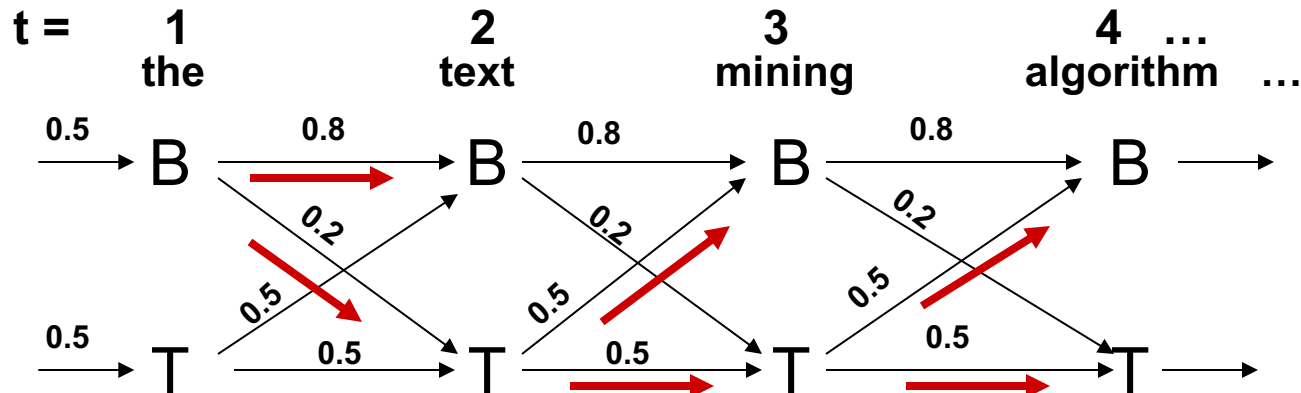
P(w|B)

the 0.2
a 0.1
we 0.01
…
algorithm 0.0001
mining 0.005
text 0.001

0.8

0.5

0.2

B   T

0.5

P(B)=0.5   P(T)=0.5
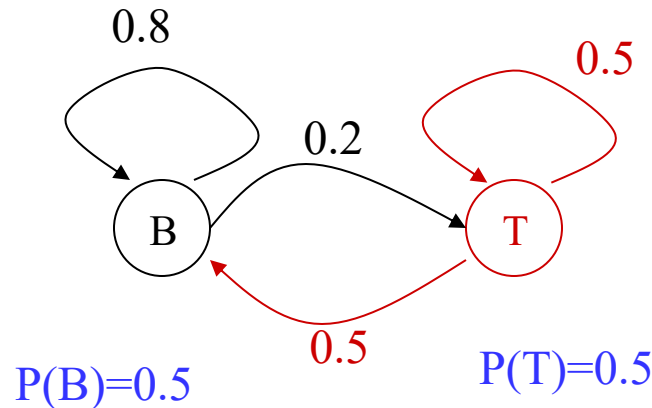
P(w|T)

…
the 0.05
text =0.125
mining = 0.1
algorithm =0.1
clustering = 0.05

t =	1 the	2 text	3 mining	4 … algorithm …

0.5 → B 0.8 → B 0.8 → B 0.8 → B →
0.2
0.5

0.5 → T 0.5 → T 0.5 → T 0.5 → T →

VP(B):   0.5*0.2 (B) → 0.5*0.2*0.8*0.001(BB) → … *0.5*0.005 (BTB) → …*0.5*0.0001(BTTB)

VP(T)   0.5*0.05(T) → 0.5*0.2*0.2*0.125(BT) → … *0.5*0.1 (BTT) → …*0.5*0.1(BTTT) ← Winning path!

16