

# Viterbi Decoding

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## Objectives

- Further explanation of Viterbi decoding

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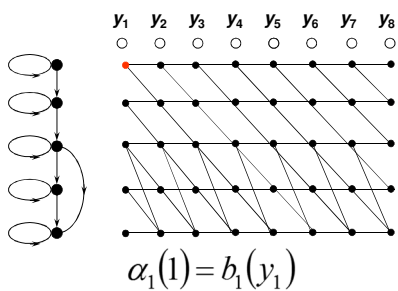
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## Viterbi Decoding



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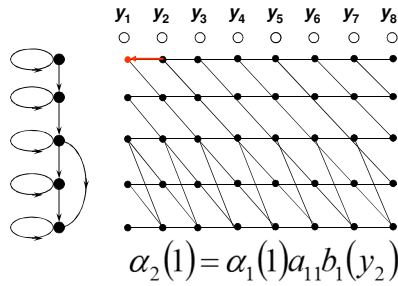
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# Viterbi Decoding



Multimodal Interaction Lab  
b s : m i g a m



EE4R Automatic Spoken Language Processing

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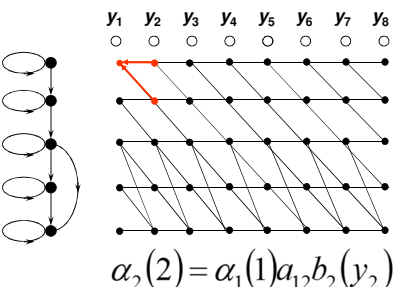
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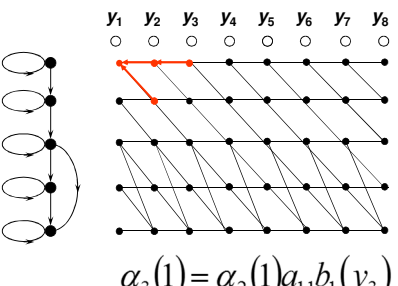
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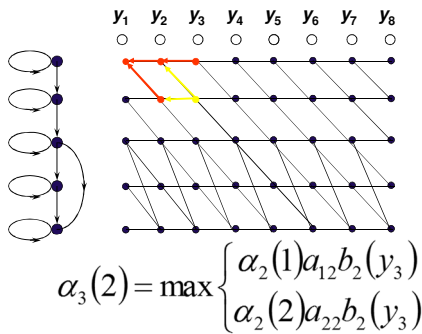
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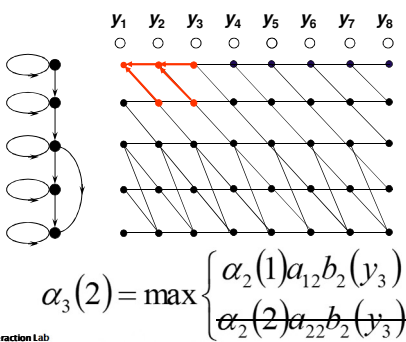
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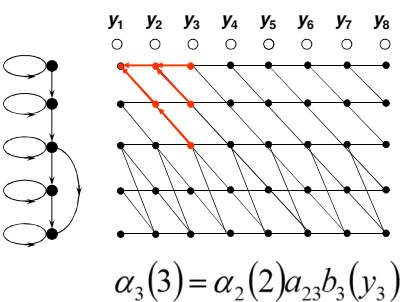
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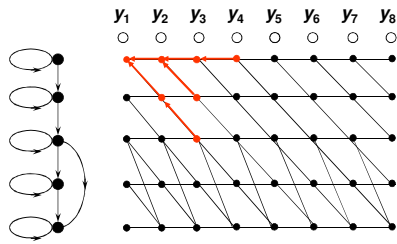
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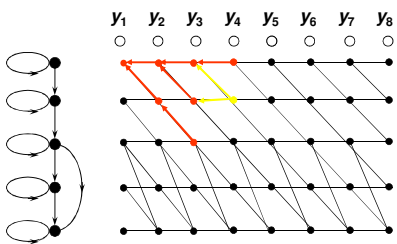
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## Viterbi Decoding



$$\alpha_4(2) = \max \begin{cases} \alpha_3(1) a_{12} b_2(y_4) \\ \alpha_3(2) a_{22} b_2(y_4) \end{cases}$$

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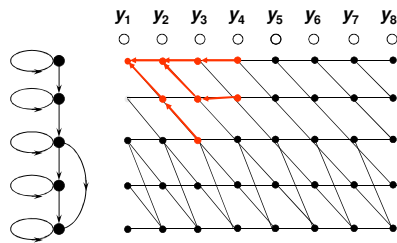
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## Viterbi Decoding



$$\alpha_4(2) = \max \begin{cases} \alpha_3(1) a_{12} b_2(y_4) \\ \alpha_3(2) a_{22} b_2(y_4) \end{cases}$$

Multimodal Interaction Lab  
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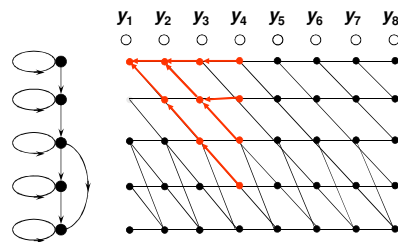
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# Viterbi Decoding



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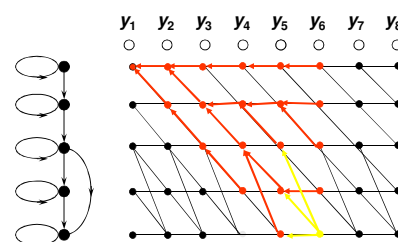
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# Viterbi Decoding



$$\alpha_6(5) = \max \begin{cases} \alpha_5(5) a_{55} b_6(y_6) \\ \alpha_5(4) a_{45} b_6(y_6) \\ \alpha_5(3) a_{35} b_6(y_6) \end{cases}$$

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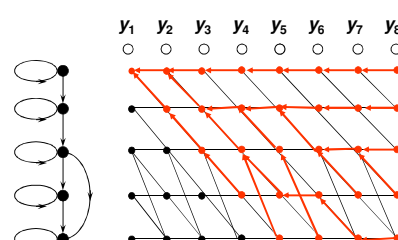
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# Viterbi Decoding



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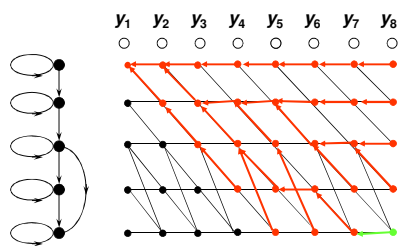
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# Trace-back



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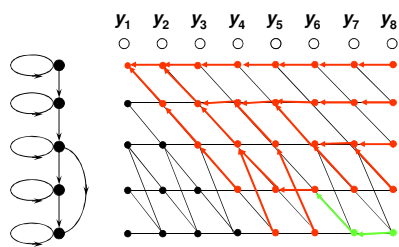
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# Trace-back



Multimodal Interaction Lab  
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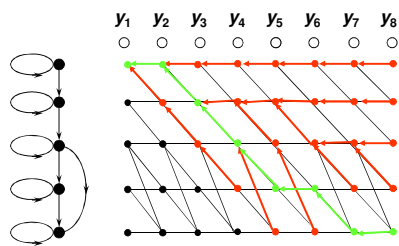
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# Trace-back



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