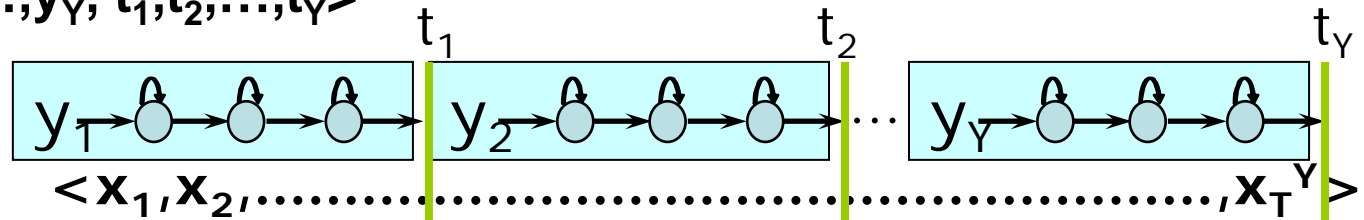# Three usages of the term "unlabeled data" in HMM

supplemental figure for [M. INOUE and N. UEDA TPAMI '03]

- Automatic speech recognition (ASR) etc.
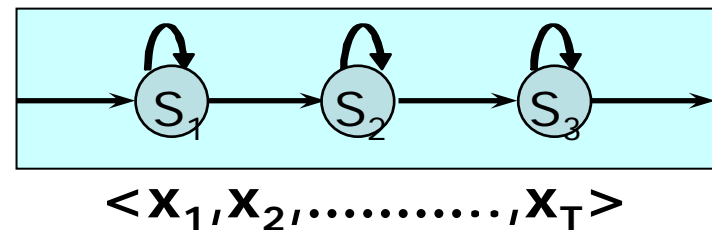
  label = class label sequence + segment information

  $<y_1,y_2,\ldots,y_Y, t_1,t_2,\ldots,t_Y>$

- Part of speech（PoS）tagging, information extraction（IE）etc.

  label = state label sequence

  $<s_1,s_2,\ldots,s_U>$

- Pattern recognition, signal processing, bioinformatics etc.

  label = class label for the entire sequence

  $<y>$