Sequence labeling Problems:

1. POS tagging problems < Automatic parsing and Treebank making for Farsi > parsing is very important and useful in text processing in any language.
2. Named entity recognition
3. Semantic role labeling (also referred to as case role analysis, thematic analysis, shallow semantic analysis)
4. Extract pieces of information related to specific task, for example car ads (make, model, year etc.)
5. Bioinformatics, gen labeling
6. Noun phrase chunking
7. Information extraction and Relation extraction. (NLP course of Stanford)

Sequence labeling Approaches:

1. Customary classification methods can be used, however, they are not good practices because they do not consider nearby elements dependency
2. Hidden Markov models (HMM)
3. Conditional random fields (CRF)