

Named Entity Recognition (NER)

Medical Entities

- Diseases & conditions
- Drugs & treatments
- Signs & symptoms
- Lab tests & values
- Anatomical structures

Rule-Based Systems

- Dictionary lookups (UMLS)
- Regular expressions
- Pattern matching
- Fast but limited coverage

Machine Learning Models

- CRF, SVM models
- LSTM, BiLSTM
- Contextual embeddings
- Better generalization

Deep Learning & Hybrid

- BioBERT, ClinicalBERT
- Transfer learning
- Combining rules + ML
- State-of-the-art performance