

# Hands-on: Clinical NLP with Python

## spaCy Medical (scispaCy)

- pip install scispacy
- en\_core\_sci\_sm model
- NER for biomedical entities
- Abbreviation detection

## MedCAT Tutorial

- Medical Concept Annotation Tool
- Unsupervised learning from UMLS
- Link entities to CUIs
- Negation & context detection

## BioBERT Usage

- Pretrained on PubMed + PMC
- Fine-tune on clinical notes
- NER, relation extraction
- Hugging Face transformers

## Pipeline Creation

- Load clinical notes
- Preprocess & tokenize
- Extract entities
- Evaluate with precision, recall, F1