

## NLP for Biomed — Lit Mining, KG Construction & NER — Hands-on

Learn how to apply natural language processing to biomedical literature, databases and clinical style text. This module walks through text preprocessing, tokenization, named entity recognition and normalization, relation extraction and knowledge graph construction for real world discovery and curation workflows.

### NLP for Biomed — Lit Mining, KG Construction & NER

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#### Session 1

**Fee: Rs 8800** [Apply Now](#)

#### Biomedical Text & NLP Foundations

Sources and types of biomedical text data

[PubMed style abstracts](#) [full text articles and guidelines](#) [clinical style notes overview](#)

NLP preprocessing for biomedical corpora

[sentence splitting and tokenization](#) [lemmatization and stop word handling](#) [handling units, symbols and](#)

**greek letters**

Representing biomedical text numerically

**bag of words and TF IDF** **classical word embeddings**

**idea** **transformer based contextual embeddings**

**intuition**

## **Session 2**

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### **NER, Entity Linking & Normalization**

Named entity recognition for biomedical text

**gene, disease and drug entities** **rule based vs ML and**

**transformer NER** **evaluation with precision, recall**

**and F1**

Entity linking and normalization to standards

**mapping to ontologies and IDs** **UMLS, MeSH, HGNC,**

**DrugBank style resources** **disambiguation strategies**

**and confidence scores**

Preparing clean entity spans for downstream use

**deduplication and canonical forms** **resolving**

**overlapping entities** **storing entities for later graph**

**building**

## **Session 3**

**Fee: Rs 14800** Apply Now

### **Relation Extraction & Knowledge Graphs**

Relation extraction concepts and patterns

**co occurrence and pattern based relations**

**supervised and distant supervision ideas** **simple**

**transformer classifiers for relations**

Building biomedical knowledge graphs from text

**nodes as normalized entities** **edges as typed relations** **simple graph schema design**

Exploring and using knowledge graphs

**basic queries for neighbourhoods** **path based hypothesis generation** **exporting subgraphs for downstream ML**

#### **Session 4**

**Fee: Rs 18800** Apply Now

### Literature Mining Workflows & Deliverables

End to end literature mining pipeline design

**corpus selection and query strategies** **batch processing and incremental updates** **logging and error handling basics**

Evaluation and quality checking of extractions

**manual review samples and error types** **simple inter annotator agreement metrics** **feedback loops to improve NER and relations**

Deliverables: knowledge graph and mining report pack

**entity and relation tables or graph files** **notebooks for NER and relation extraction** **written summary of insights and limitations**