

NLP for Biomedical Research & Text Mining — Hands-on

Turn unstructured biomedical text—PubMed abstracts, PMC full texts, clinical notes—into analyzable datasets and knowledge graphs. This hands-on module covers classical and neural NLP, domain ontologies, modern transformer/LLM workflows (including RAG), de-identification basics, and rigorous evaluation. You will ship reproducible text-mining pipelines with clear documentation and dashboards.

NLP for Biomedical Research & Text Mining

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Session 1

Fee: Rs 14,800 [Apply Now](#)

Corpora, Ontologies & Preprocessing

Biomedical text sources & formats

[PubMed/PMC](#) [PubTator/BioC](#) [EHR notes*](#)

Ontologies & terminologies

[UMLS/MeSH/SNOMED](#) [HGNC/DrugBank/ClinVar](#) [ID normalization](#)

Preprocessing & tokenization

[sentence split/negation](#) [abbrev disambig](#) [Bio tokenizers](#)

*De-identification concepts included; sample data is synthetic.

Session 2

Fee: Rs 20,400 Apply Now

NER/RE/Normalization & Evaluation

Entity & relation extraction

CRF/BiLSTM-CRF transformer NER dependency patterns

Mention linking & normalization

UMLS/MeSH IDs string & embedding search disambig

Metrics & error analysis

precision/recall/F1 micro/macro confusions/ablation

Session 3

Fee: Rs 26,200 Apply Now

Transformers, Fine-Tuning & RAG

Domain models & adaptation

BioBERT/PubMedBERT SciBERT/ClinicalBERT
LoRA/PEFT

Prompting & weak supervision

prompt templates Snorkel labeling distillation

Retrieval-augmented generation (RAG)

BM25/bi-encoders chunkers/indexers hallucination checks

Session 4

Fee: Rs 32,600 Apply Now

Mini Capstone: Text-Mining Pipeline

Build an end-to-end pipeline (NER→RE→Normalize→RAG)

Theory + Practical

Governance & reporting

PHI de-ID basics* **model cards** **error dashboards**

Deliverables: code, evaluation & PDF brief

notebook/script **F1/PR tables** **PDF/HTML**

*Educational content only; not legal advice or production compliance guidance.