AI-Powered Insights and Explainability for Medical Decision Support and Analytics

## Introduction (Sumaira)

* Agenda for the workshop
* General usecases/applications of NLP in healthcare
* Initial setup on Kaggle Notebook/Google Colab

## Medical NER (Sumaira)

* Introduction
  + What is named entity recognition?
  + Different medical NER models
* Tools
  + Spacy
  + https://github.com/medspacy/medspacy
  + Sci-Spacy (<https://allenai.github.io/scispacy/>)
  + <https://huggingface.co/medical-ner-proj/bert-medical-ner-proj>
  + <https://huggingface.co/d4data/biomedical-ner-all>
  + https://huggingface.co/blaze999/Medical-NER
  + LLMs
    - <https://huggingface.co/ashishkgpian/BioLlama3>
* Use cases
  + Analytics
  + Knowledge management
* Pitfalls

## Summarization (Adil)

* Introduction
  + The Information Overload Challenge in Healthcare
  + Extractive vs Abstractive summary
* Use cases
  + Clinical notes
  + Discharge summary
  + Medical literature
* Pitfalls

## Explainability (Adil)

* Introduction
  + What is explainability?
  + Local vs Global explanation
  + General Setup
* Interpretable and Explainable models
  + Decision Trees and Linear Regression
  + LIME
  + SHAP
  + Counterfactual Explanations (optional)
* Use cases
  + Heart Disease prediction
  + Diabetes
* Pitfalls

## Q & A

## Audience Feedback