**Project Brief:**

NLP in Clinical Decision Support and Text Classification of Medical and Non-Medical Prescriptions

**Project Title:**

NLP-based Clinical Decision Support and Text Classification in Medical Prescriptions

**Project Overview:**

The purpose of this project is to leverage Natural Language Processing (NLP) techniques to enhance clinical decision support systems and develop text classification models for medical and non-medical prescription analysis. By analyzing medical prescriptions using NLP algorithms, the project aims to improve the accuracy and efficiency of clinical decision-making processes.

**Objectives:**

* Apply NLP techniques to extract meaningful information from medical prescriptions.
* Develop a clinical decision support system using NLP algorithms to assist healthcare professionals in making accurate diagnoses and treatment decisions.
* Build text classification models to distinguish between medical and non-medical prescriptions.
* Evaluate the performance of the developed models and assess their effectiveness in improving prescription analysis.

**Scope:**

The project will focus on utilizing the attached research papers related to Clinical Decision Support and Text Classification based Medical and Non-Medical Prescription as foundational knowledge. The project will primarily involve data analysis, NLP algorithm implementation, and model development. However, the project will not include the deployment of the system or conducting extensive clinical trials.

**Deliverables:**

* A comprehensive analysis of the attached research papers and a literature review on NLP techniques in clinical decision support and text classification of medical prescriptions.
* Developed NLP algorithms for extracting relevant information from medical prescriptions.
* Text classification models trained on suitable datasets to differentiate between medical and non-medical prescriptions.
* Evaluation report comparing the performance of the developed models and assessing their effectiveness using right metrics.

**Timeline: (Rough Timelines for now but post discussion and finalizing the topic will update right one)**

The estimated timeline for this project is as follows:

* Literature review and research paper analysis: 3 weeks
* Learning NLP Algorithm and their implementation: 2 weeks
* NLP algorithm development and implementation: 3 weeks
* Text classification model training and evaluation: 3 weeks
* Finalizing the project report and documentation: 2 weeks

**Resources:**

Primary data source: <https://mtsamples.com/>

Secondary Data: <https://www.kaggle.com/datasets/tboyle10/medicaltranscriptions>