

# Feb 3rd, 2024

Dataset:

Classes and Definitions: (Derived from <https://arxiv.org/abs/2201.13125>)

|   |  |
|---|--|
| Preamble                                | <p>This includes the information about the legal judgment record's metadata. A typical ruling would start with the court's name, the parties' finer details, the names of the lawyers and judges, and a headnote (rundown). This section</p> <p>would frequently conclude with a catchphrase like (JUDGMENT or Arrange). Some documents also have HEADNOTES and ACTS sections at the beginning which are included in the Preamble as well.</p> |
| Facts (FAC)                             | <p>These are the relevant case facts. It describes the sequence of actions that resulted in the case being filed and how it progressed (for example, submitting a First Information Report (FIR) at a police station or making an appeal to the Magistrate). Depositions, current court processes and summaries of earlier court actions.</p>  |
| Ruling by Lower Court (RLC)             | <p>Cases are appealed from lower courts rather than being filed directly in higher courts. In light of the current appeal, the documents include decisions made by the lower courts (Trial Court and High Court) (to the Supreme Court or high court)</p>  |
| ISSUES                                  | <p>The main issues on which the verdict must be delivered are mentioned in some rulings. These legal issues that the court has framed are mostly in the form of questions.</p>   |
| Argument by Petitioner (ARG PETITIONER) | <p>This category includes precedent cases raised by petitioner attorneys, but when the</p>   |

|  |  |
|--|--|
|  | <p>court analyzes them later, they fall into either the relied-upon or not-relied-upon category.</p>   |
| Argument by Respondent (ARG RESPON-DENT) | <p>Lawyers for the respondents' arguments. This refers to precedent cases that respondent attorneys argue, but when the court analyzes them later, they fall into one of two categories: relied upon or not</p>  |
| Analysis (ANALYSIS)                      | <p>These are the court's viewpoints. Courts' discussions of the evidence, facts provided, earlier cases, and laws are included in this. Discussions on whether the law is or is not relevant to the situation at hand. It serves as the parent tag for the following three tags: PRE RELIED, PRE NOT RELIED, and STATUTE</p> |
| Statute (STA)                            | <p>Texts that the court uses to ex-plain existing laws may include Acts, Sections, Articles, Rules, Orders, Notices, Notifications, and Quotations taken verbatim from the relevant Act.</p> <p>Both the tags Analysis and Statute will be included in the statute.</p>  |
| Precedent Relied (PRE RELIED)            | <p>Texts in which the court analyzes earlier case materials, deliberations, and rulings that were cited in making final conclusions. Both the tags Analysis + Precedent will be present on Precedent</p>   |
| Precedent Not Relied (PRE NOT RELIED):   | <p>Texts in which the court considers earlier case materials, exchanges, and rulings that were not considered in its final findings. It may be because the circumstances of the previous case are unrelated to the current case</p>  |
| Ratio of the decision (Ratio)            | <p>Texts that the court debates. This contains the primary justification offered for applying any legal theory to the legal question. It is the outcome of the court's analysis. Usually, it shows up just before the choice is made. It</p>   |

|                               |  |
|-------------------------------|--|
|                               | differs from "Ratio Decidendi," which is taught in legal academic curricula.   |
| Ruling by Present Court (RPC) | Final decision, the conclusion along with the order of the Court resulting from the logical/natural conclusion of the reasoning. |
| None (NONE)                   | A sentence is marked as NONE if it does not fit into any of the aforementioned categories  |

### Some Text to Class Examples:

|   |               |
|---|---------------|
| In that view of the matter, the finding of the court below based entirely on the evidence of PW.8 to 11 cannot be sustained.  | ANALYSIS      |
| In that view of the matter, it cannot be concluded with any certainty that there was constant cruelty meted out to Lakshmi and that there was abetment of the commission of suicide by Laxmi.   | RATIO         |
| The intention of the legislature and the ratio of the cases decided by the apex court were clear that in order to convict a person under section 306 of the IPC, there has to be a clear mens rea to commit the offence and it also requires an active act or direct act which lead the deceased to commit suicide seeing no option and that act must have been intended to push the deceased into such a position that he committed suicide.\n | PRE_RELIED    |
| The learned Counsel would point out that PWs.1 to 6, who were the witnesses belonging to the village of the appellant, namely Suntan village, had all turned hostile and not supported the case of the prosecution.   | ARG_PETITIONE |
| 3. The court below answered the above points in the affirmative and accordingly had convicted the accused to undergo simple imprisonment for three years and pay a fine of  | RLC           |

|  |     |
|--|-----|
| Rs.5,000/- for the offence punishable under section 498-A IPC and 10 years simple imprisonment and to pay fine of Rs.10,000/- for the offence punishable under Section 306 of the IPC.   |     |
| However, on 7.3.2008, she had received a message from Jaganath of Suntan village, that at about 10 p.m., her daughter Laxmi and grand-daughter Bhagewati had died of drowning in a well. | FAC |

### Statistics:

Training Data - 245 legal Documents - 28989 sentences

Test Data - 30 legal Documents - 2890 sentences

Classes - 13

Statistic methods tried till Feb 3rd, 2024 (Github link:

<https://github.com/satishreddy7/Legal-Documents-Sentence-Role-Prediction.git>):

#### 1. Naive Bayes

| Metric Name | Result |
|-------------|--------|
| macro F1    | 0.32   |
| Precision   | 0.52   |

#### 2. Doc2Vec + Logistic Regression

| Metric Name | Result |
|-------------|--------|
| macro F1    | 0.36   |
| Precision   | 0.46   |

### Results Analysis:

As expected the naive statistical models without any learning didn't perform well, next I will be experimenting with model with embeddings.

Prospective methods for next 3 weeks:

#### 1. Wiki BM25 Lexical Model

2. Glove Embedding + Fully Connected Layer
3. Glove Embedding + 1 Dimensional CNN