

# Knowledge-Based Question Answering

Sudipto Ghosh

*M.Sc. CS Semester I  
Department of Computer Science  
University of Delhi*

March 3, 2023

# Model Training

- data preparation and kb population – sc judgements from 1970-2010 (source: indiankanoon.org)
- metadata extraction using jape grammar rules
- fine-tuned gpt with two-way prompt-completion pairs

# Basic Prototype

KanoonQA

```
Q: get all data in kg
[{"s":{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#dyachandrachud"},"p":
{"type":"uri","value":"http://www.w3.org/1999/02/22-rdf-syntax-ns#type"},"o":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#judge"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#kmjoseph"},"p":
{"type":"uri","value":"http://www.w3.org/1999/02/22-rdf-syntax-ns#type"},"o":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#judge"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#skkauli"},"p":
{"type":"uri","value":"http://www.w3.org/1999/02/22-rdf-syntax-ns#type"},"o":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#judge"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#1789887"},"p":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#casebelongstotype"},"o":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#civil"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#1789887"},"p":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#date"},"o":
{"type":"literal","value":"27/07/1977"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#1789887"},"p":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#date"},"o":
{"type":"literal","value":"28/07/1977"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#1789887"},"p":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#documenttype"},"o":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#court_judgements"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#1789887"},"p":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#hasauthor"},"o":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#yachandrachud"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#1789887"},"p":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#hasauthor"},"o":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#pkgoswami"}}, {"s":
{"type":"uri","value":"https://cs.du.ac.in/kg/sudipto#1789887"},"p":
{"type":"uri","value":"https://w3id.org/def/nyonlegalontology#hascasename"},"o":
{"xml:lang":"en","type":"literal","value":"s.p. deshmukh vs shah nihai chand
waghajibai ... on 27 July, 1977"}}]

Q: get a case from 1977
on 27th July 1977, s.p. deshmukh vs shah nihai chand waghajibai and
narendra madivalapa khani vs manikrao patil & ors were heard in the
court. on 28th July 1977, s.p. deshmukh vs shah nihai chand waghajibai
and narendra madivalapa khani vs manikrao patil & ors were heard in
the court.

A:
```

get all data in kg

get a case from 1977

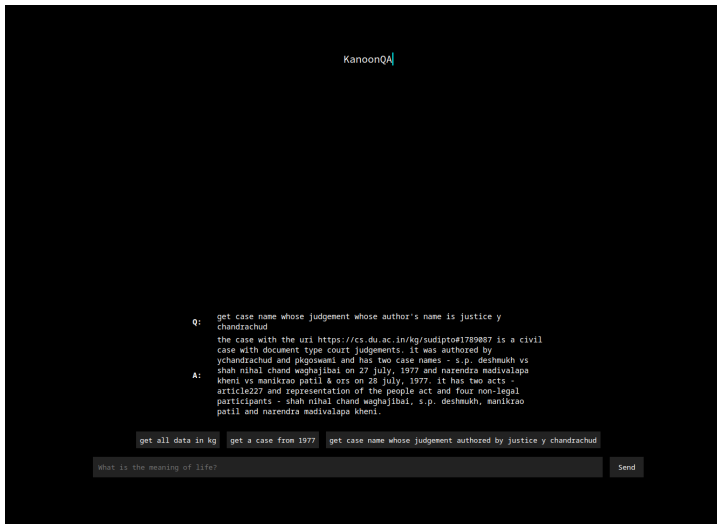
get case name whose judgment authored by justice y chandrachud

What is the meaning of life?

Send

user interface and output  
tech stack: next.js, google cloud platform

# Basic Prototype



user interface and output  
tech stack: next.js, google cloud platform

# Competency Questions

- get all data in kg
- get cases from 1977
- get a case whose judgement was authored by justice y chandrachud
- list all civil cases