AI Introduction

- AI
- Data
- AI General Tasks
- Applications
- Current Work

AI in Law

How Human mind thinks
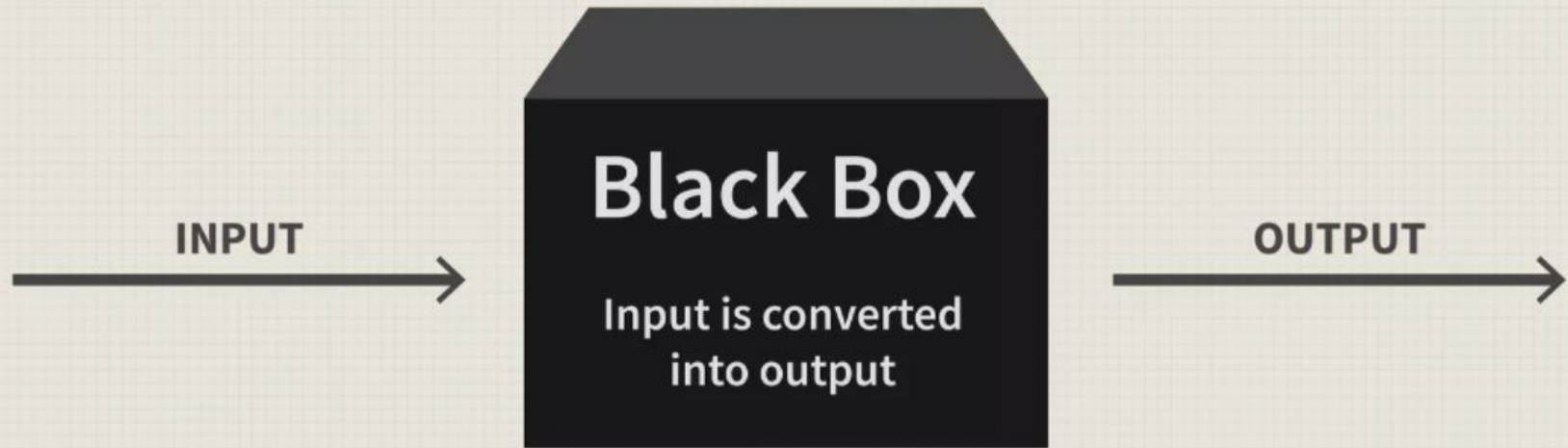
Input

Output

AI as blackbox

Let's Go back to the school time

Teacher

Student

Books

Teacher

Student

Books

Provides the knowledge

Teacher

Student

Learn from books
Pass the exam based on learned Knowledge

Books

Provides the knowledge

Teacher
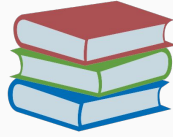
Evaluate our knowledge
Help in supervising

Student

Learn from books
Pass the exam based on learned
Knowledge

Books

Provides the knowledge

Books

Question ⟶ Answer

X ⟶ Y

Books

Question 5. Define molecule.
Answer: The smallest particle of an element or compound which can exist independently is called molecule.

Question 6. Define atomicity.
Answer: The number of atoms constituting a molecule is known as its atomicity.

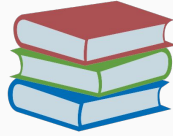**Question 7. What is atomic mass unit?**
Answer: The sum of the atomic masses of all the atoms in a molecule of the substance is expressed.in atomic mass unit. E.g., $H_2O = 1 \times 2 + 16 = 18$ amu

Question 8. How do atoms exist?
Answer: Atoms exist in the form of atom, molecule or ions.

Books

During Study   Question ———————→ Answer

During Exam   Question ———————→ ?
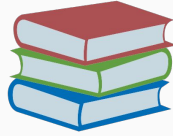
Books

Exams questions were not from books only but we still used to solve them
Based on old questions and knowledge we gained from books, lectures etc
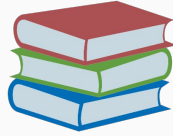
Books

After exam we used to get marks based on our performance in exam paper

Let's Go back to the school time

Teacher

Student

Books

Programmer

Let's Go back to the school time

Teacher
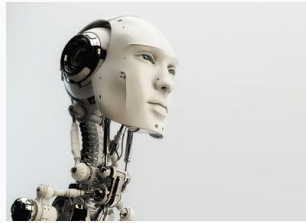
Student

Books

Programmer

AI Model

Let's Go back to the school time

Teacher	Student	Books
↓	↓	↓
Programmer	AI Model	Digital Data
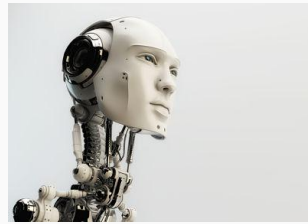
AI Data

Question → Answer

Input   Answer / Label

AI data format

x $\longrightarrow$ **y**

Question / Input   Answer / Label

How Human maps and learns

We learn by mapping things/objects/feelings with a label

 ———————→ CAT

 ———————→ DOG

X   Y

Sentiment analysis example

"I love this movie.
I've seen it many times
and it's still awesome."

"This movie is bad.
I don't like it it all.
It's terrible."

X   Y

Single data point / Single question

Loves the German bakeries in Sydney. Together with my imported honey it feels like home	Positive
X	Y
Question / Input	Answer / Label

Single data point / Single question

Loves the German bakeries in Sydney. Together with my imported honey it feels like home	Positive

Model learn from this text   We predict this

Question / Input   Answer / Label

Sentiment analysis example

Loves the German bakeries in Sydney. Together with my imported honey it feels like home	Positive
@VivaLaLauren Mine is broken too! I miss my sidekick	Negative
Finished fixing my twitter...I had to unfollow and follow everyone again	Negative
@DinahLady I too, liked the movie! I want to buy the DVD when it comes out	Positive
@frugaldougal So sad to hear about @OscarTheCat	Negative
@Mofette briliant! May the fourth be with you #starwarsday #starwars	Positive
Good morning thespians a bright and sunny day in UK, Spring at last	Positive
@DowneyisDOWNEY Me neither! My laptop's new, has dvd burning/ripping software but I just can't copy the files somehow!	Negative

X   Y

Books

During Study   Question ⟶ Answer

During Exam   Question ⟶ ?
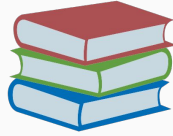
Sentiment analysis example

During Training

Loves the German bakeries in Sydney. Together with my imported honey it feels like home	Positive
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Finished fixing my twitter...I had to unfollow and follow everyone again	Negative
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Exam

Good morning thespians a bright and sunny day in UK, Spring at last	
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X   Y

Paper discussion

ILDC for CJPE: Indian Legal Documents Corpus for Court Judgment Prediction and Explanation

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Paper discussion

3 Indian Legal Document Corpus

In this paper, we introduce the INDIAN LEGAL DOCUMENTS CORPUS (ILDC), a collection of case proceedings (in the English language) from the Supreme Court of India (SCI). For a case filed at the SCI, a decision ("accepted" v/s "rejected") is taken between the appellant/petitioner versus the respondent by a judge while taking into account the *facts of the case*, *ruling by lower Court(s)*, if any, *arguments*, *statutes*, and *precedents*. For every case filed in the Supreme Court of India (SCI), the judge

Paper discussion

(or a bench) decides on whether the claim(s) filed by the appellant/petitioner against the respondent should be "accepted" or "rejected". The decision is relative to the appellant. In ILDC, each of the case proceeding document is labeled with the original decision made by the judge(s) of the SCI, which serve as the gold labels. In addition to the ground truth decision, a separate test set documents are annotated (by legal experts) with explanations that led to the decision. The explanations annotations are ranked in the order of importance.

Paper discussion

Corpus (Avg. tokens)	Number of docs (Accepted Class %)		
	Train	**Validation**	**Test**
ILDCmulti **(3231)**	32305 (41.43%)	994 (50%)	1517 (50.23%)
ILDCsingle **(3884)**	5082 (38.08%)		
ILDCexpert **(2894)**	56 (51.78%)		

Table 1: ILDC Statistics

Paper discussion

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Table 1: ILDC Statistics

Paper discussion

	case proceeding	label
0	F. NARIMAN, J. Leave granted. In 2008, the Pu...	accepted
1	S. THAKUR, J. Leave granted. These appeals ar...	rejected
2	Markandey Katju, J. Leave granted. Heard lear...	accepted

X   Y

Paper discussion

	case proceeding	label	explanation
0	F. NARIMAN, J. Leave granted. In 2008, the Pu...	accepted	explanation
1	S. THAKUR, J. Leave granted. These appeals ar...	rejected	explanation
2	Markandey Katju, J. Leave granted. Heard lear...	accepted	explanation

X   Y

Paper discussion

sets. The first set, called $ILDC_{single}$, either have documents where there is a single petition (and, thus, a single decision) or multiple petitions, but the decisions are the same across all those petitions. The second set, called $ILDC_{multi}$, is a superset of $ILDC_{single}$ and has multiple appeals leading to different decisions. Predicting multiple different deci-

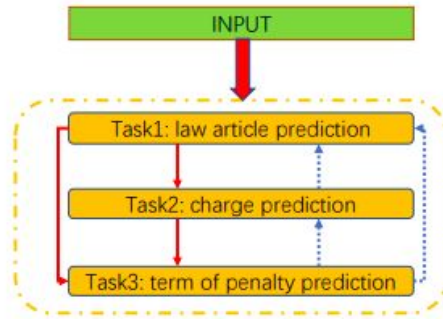# Law Articles Charges and Term of Penalty

Figure 1: Topology of LJP tasks

Paper discussion

article 117: Whoever sabotages a train, motor vehicle, tram, ship or aircraft to such a dangerous…

article 118: Whoever sabotages a railroad, bridge, tunnel, highway, airport, waterway, lighthouse…

law: Crimes of Endangering Public Security

article 266: Whoever steals a relatively large amount of public or private property…

article 267: Whoever forcibly seizes public or private money or property, if the amount is relatively large…
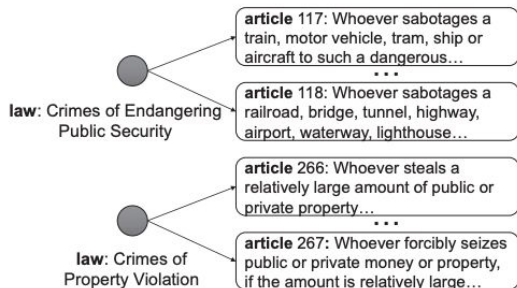
law: Crimes of Property Violation

Table 1: An example of the judgment case, including a fact and labels violated. Words written in bold share similar semantics between the fact and labels.

fact	On the morning of May 1, 2018, local governments began to demolish illegal factories reported by the villages; by noon Guo and Wang threw several self-made **explosives** to prevent the demolition, several **cars** were **damaged**..
laws and articles	law 6: Crimes against Public Safety: article 119: Whoever **sabotages** any means of transport, **transportation facility**,electric power facility...