

L'AILA: The AI powered Legal Assistant

Tech Mahindra's legal artificial assistant (L'AILA) is a natural language processing (NLP) based platform powered by artificial intelligence (AI) to extract critical clauses from contract documents and perform subsequent actions.

The legal team of an organization receives multiple documents (contracts) on a daily basis, which they have to manually analyze and process. Around 65% of this manual process consists of reviewing the document and extracting critical insights from it. This extracted information is shared with other stakeholders or departments of the organization to ensure compliance with organizational standards. Informal communication and negotiation is involved between different stakeholders, legal team, and customer before the contract is finally accepted.

OUR SOLUTION

Our solution, L'AILA automatically reviews the content of contracts and extracts important clauses and insights from them. The solution also assigns the content subtexts from the document automatically to designated stakeholders for further processing. L'AILA provides legal users with an easy and standard solution to simplify their hectic schedule of manual tasks. Each AI functionality is deployed as a microservice which helps in easy integration with any contract lifecycle management platform.

Features of the Solution

- Document classification will identify the type of contract that is uploaded on the platform. There are multiple types of contracts like MSA, NDA, lease agreement, vendor agreement, MOU, etc. This feature will identify the type of contract that was received by legal user
- Document similarity helps in identifying existence of duplicate contract document already present in the repository
- Multiple levels of content classification for identifying important clauses (payment term, IPR, termination, limitation of liability etc.). Key information like payment period, mode of payment, currency of payment, and invoice period are also extracted from the contract
- Identifying stakeholders (tax, finance, insurance, delivery departments) of the organization who will review document content to ensure compliance with organizational standards
- Active learning from the feedback of users feature captures responses from users for wrongly predicted data and then records this in a backend database, which is further used for retraining the NLP models to improve accuracy
- Performance metrics to understand the performance of application. This includes accuracy metrics, operation metrics and, prediction metrics
- Data distribution details for understanding the drift in data used for training the models. This feature provides an option for users to add/modify the data that will be used for training

KEY CHALLENGES

In any team, each legal team member would be working on multiple contracts simultaneously, each of which requires multiple interactions with various stakeholders and customers. Some of the common challenges are listed below:

- Legal experts tied down due to a lot of manual tasks
- Manual errors introduced due to volume and involvement of multiple stakeholders
- No standardized workflow due to interaction with multiple stakeholders
- High response time
- Handover challenges
- Retraining requirements

Solution Technology

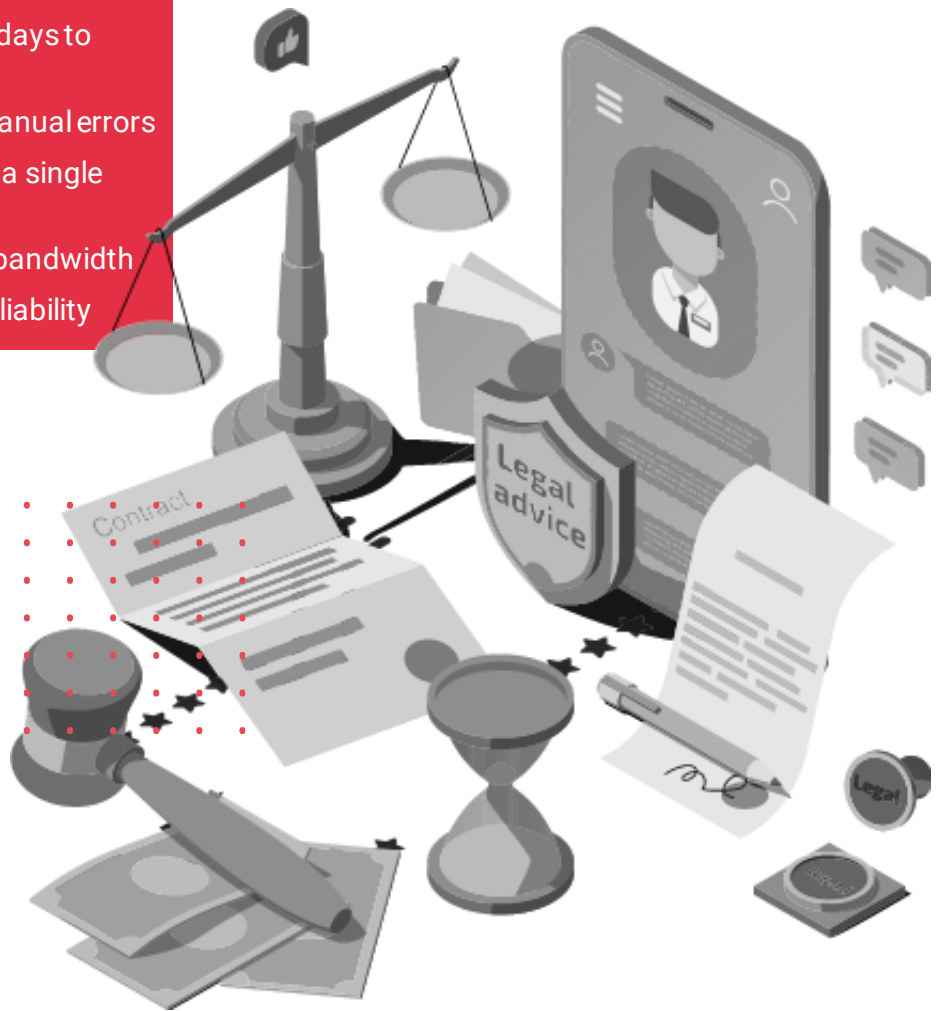
The solution is completely based on an open-source stack (Python-Flask Framework). The content of around 500 contract documents is used for training the NLP algorithms behind the platform. Since the amount of data is considerably less for training, we have used transfer learning-based models with advanced architecture of transformers (BERT, ROBERTA). Latest algorithms based on LASER embedding, FAISS, Bi-LSTM, SPACY, Rule-based are part of it. Some of the other major components of application include ELK (Elastic search, Logstash, Kibana), MongoDB.

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BENEFITS

- Turnaround time decreased from days to hours
- Improved accuracy by reducing manual errors
- Standardized way of working with a single channel interaction
- Better utilization of legal expert's bandwidth
- Quick traceability and mapping of liability



To know more, reach us at
Wave2.Communications@techmahindra.com



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