

AI Challenges And Why Legal Is A Great Place To Kick-Start Great NLP

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AI & Big Data I write about AI, data and the future and science of work

Natural language processing (NLP) is among the fastest growing applications of artificial intelligence (AI). It's also one of the most difficult to build. NLP powers a growing number of tools, such as chatbots, virtual assistants like Amazon's Alexa, and even the spell check for the communication apps we use to send text messages from our devices.

Legal is among the many industries that are looking for ways to apply AI
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But it's fraught with challenges because to create a machine learning (ML) algorithm requires you to "teach" a machine how to interpret, distill and generate language almost spontaneously. Compound that challenge by what's well known among NLP developers:

software cannot pick up on subtlety. In our work, we know data cleaning for NLP requires context. For example, if workers are labeling your text data, you would want them to tag the word “bass” accurately, knowing whether the text in a document relates to fish or music.

Legal is among the many industries that are looking for ways to apply AI to create operational efficiencies. And, of course, most legal documents are text. Now consider this: a machine can review in seconds what would take an expensive attorney hours to review. Heretik, a company based in Chicago, Ill., uses machine learning (ML), specifically NLP, to automate tasks related to the legal domain, such as contract review and project forecasting.

I caught up with Andy Abbott, Heretik’s CTO, to learn about the challenges his team has encountered in creating an AI solution for the legal domain.

How is AI changing the workforce in the legal industry?

AI makes information easier to find for attorneys and their opponents. That levels the playing field. It fundamentally changes the way work is done in the legal profession, where knowledge is a commodity. Historically, law firms have been judged on their collective partners’ experience, which is essentially a form of intellectual property (IP). If a partner left a firm, that IP would leave with that person.

AI has changed this dynamic. Machine learning makes it possible to capture that collective knowledge and build on it. In the not-so-distant future, law firms will be able to harness the power of their partners’ experience and offer it as an additional service. Today, AI can scan hundreds of pages of legal documents and remove much of the “noise,” or information that isn’t pertinent, that can distract you from the task at hand. That ease allows lawyers to focus their time and work more efficiently.

AI also surfaces information that previously would have been difficult to find, because you weren’t looking for it. For example, let’s say a firm is the industry leader in oil and gas law, specializing in mineral rights, and they developed and licensed an AI package to review mineral rights in the state of Wyoming. That may sound like niche expertise but if the software were made available for other attorneys to use, it could alert a lawyer in Florida who is reviewing deeds for a deceased client who has mineral rights in Wyoming. In the legal domain, AI can uncover all kinds of important information.

What are the biggest barriers to deploying AI in the legal profession? In other areas?

Some of our AI challenges are human, and some are technical. On the human side, one party is always trying to outsmart the other. Simple concepts can be made intentionally complex. We’ve all seen legal documents with three paragraphs of data that could have been summarized in one sentence. So as we develop NLP for the legal domain, there’s some game theory involved.

We also have technical challenges that are typical for NLP across industries. Mapping the context, specificity, and personalization of NLP to the industry it serves is challenging. Law has very prescribed language. We're unlikely to encounter sarcasm, for example, in a legal contract. That makes the legal domain a great place to start with NLP.

The General Data Protection Regulation (GDPR) has been a catalytic event for AI in the legal domain. This one regulation requires the review of millions of contracts for global organizations. AI has become critical to be effective at this scale. Many of our global customers are deploying our contract review solution to meet these governmental and regulatory obligations. New regulatory requirements will emerge with the UK's exit from the European Union, with new global accounting standards established by the International Financial Reporting Standards (IFRS) Foundation, and with the phasing out of the interbank lending rate (IBOR) transition affecting the financial services industry.

What are the benefits of applying machine learning in contract review? What advice would you give to a leader who is looking for ways to apply AI in their business?

The complexities of business are increasing exponentially. Years ago, a person's word or handshake was all that was needed between two parties to do business. Compare that to the tens or even hundreds of pages of contract agreements that are required to transact business today. As these complexities have increased, the burden of understanding them has long surpassed the business parties who rely on them. Tim Cummins, CEO of the International Association for Contract and Commercial Management (IACCM) emphasized this point with the results of a recent survey that showed 88% of business people say contracts are difficult or impossible to understand.

Today, it's commonplace for businesses to engage specialized outside counsel to draft, review and manage their contracts. This may help with reducing litigation risk, but doesn't solve what the business needs every day: to understand their obligations and opportunities hidden within the complex contractual language.

Machine learning has an opportunity to drastically reduce or remove this burden and allow businesses to refocus on delivering value to their customers. AI for contract review makes it possible to automate the identification of contractual obligations that otherwise would be missed. Enterprises can proactively monitor and fulfill global, regional and local regulatory requirements, where previously this was a reactionary process requiring the payment of large fines when companies were out of compliance.

Author's Note: Heretik uses CloudFactory workers for tasks to prepare data for ML, such as text annotation, classification, and analysis.