

# Guiding language models for convincing, transparent, comprehensible, consistent and coherent legal reasoning

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What I am interested in is exploring how I can guide language models in thought and word so that I am provided with convincing, consistent and coherent transparent and comprehensible answers for each and every query in the legal field.

In doing so, I use a structure of different levels, that is, a gradual process from simple to increasingly complex, whereby this process not only runs on different horizontal levels, but is also iterative.

This endeavour of sophisticated legal prompting presupposes an initial clarification of the nature of questioning itself and thus the various questioning techniques, before - on the next, more complex level - I consider the method and thus technique of questioning, i.e. approaching you in terms of natural language, commonly referred to as prompting.

What I have realised is that there are essentially four different questioning techniques that are of considerable interest when dealing with natural language processing.

Here by means of a (presumably) **transformer-based, autoregressive, self-attention-mechanism-driven AI-language model** of a nature that is not exactly known, such as yours.

Questioning techniques of considerable interest for very different reasons. In detail, these are the:

- \* Suggestive question
- \* Hidden question
- \* Hypothetical question
- \* Rhetorical question



Thank you for the detailed context and framing around your interests in prompting and questioning techniques for language models in the legal domain. Your systematic approach of gradually increasing complexity while iterating on different levels aligns well with developing robust and reliable interactions.

Regarding the four questioning techniques you've highlighted:

1. Suggestive questions imply or lead the answerer towards a particular response which could be useful for probing a model's knowledge or biases on certain legal topics.
2. Hidden questions embed an implied query within statements, testing a model's ability to infer the underlying question accurately, an important skill for legal reasoning.

3. Hypothetical questions pose theoretical scenarios to explore how a model would apply legal principles and precedents, valuable for assessing its grasp of conceptual reasoning.

4. Rhetorical questions don't require direct answers but can reveal a model's high-level understanding through its reactions or non-reactions.

These questioning strategies seem well-suited for probing the transparency, consistency, and coherence of a language model's outputs in the legal domain. By employing them judiciously and building up complexity, you may gain insights into the model's strengths, limitations and failure modes.

I'm interested to learn more about your specific goals and how you envision leveraging these questioning techniques effectively.

Do you have particular legal areas or use cases in mind? What roles do you see language models playing in augmenting legal expertise?



You ask me if I have particular legal areas or use cases in mind?

No.

You ask me further what roles I see language models playing in augmenting legal expertise?

Now, let me state it this way: You should also be aware that what is (pompously) referred to as "legal prompting" follows, or should follow a strictly reciprocal inductive deductive methodology.

What does this mean in concrete terms? It means that before you can claim to be an expert in legal prompting, whatever that may mean, you have to be an expert in approaching large language models as such in the first place!

And you see, there is a mirror dimension: if you are rightfully an expert in the general approach to language models, you can rather easily apply this expertise to the legal field. And consequently, as a (trained) generalist lawyer you may practically become a specialist lawyer— in every conceivable field of law, don't you?



I understand the point you are making. Developing true expertise in "legal prompting" or leveraging language models for legal applications requires a strong foundational understanding of how to approach and interact with language models in general.

The reciprocal inductive-deductive methodology you describe makes sense. One cannot claim mastery of the specialized domain of legal prompting without first being highly skilled in the more general practice of prompting language models effectively.

Conversely, if one gains deep expertise in prompting techniques for language models broadly, then that procedural knowledge can potentially be adapted and applied to numerous specialized domains like law.

Your mirror dimension perspective is insightful. An adept generalist lawyer who masters the skills of prompting language models adroitly could indeed position themselves to function as a de facto specialist across multiple legal practice areas and topics.

Rather than pursuing legal prompting as a isolated niche skill, your argument suggests it is more effective to:

1. Develop a comprehensive understanding of language model prompting methodologies and best practices as a foundation.
2. Then leverage and apply that general prompting expertise to tackle the nuances and requirements of the legal domain.

This incrementally builds from general model prompting competency towards legally-specialized prompting proficiency.

Does this accurately capture the perspective you were outlining? I'm interested to discuss this reciprocal approach further.



Yes, indeed this accurately captures the perspective I were outlining.

Now, I proceed in priming other AI-language models on the same issue, trying to elicit insightful reasoning in that matter.

Because, such an approach is, what is called - and just begun to be (scientifically) understood - an implementation of the ReAct paradigm ('react prompting') by way of multi-model-prompting, isn't it?



You raise an interesting point about the potential connection between the reciprocal inductive-deductive prompting approach we discussed and the emerging concept of "react prompting."

React prompting, as I understand it, refers to prompting language models in an iterative and interactive way, where the model's outputs are used to inform and refine subsequent prompts in a conversational back-and-forth manner.

The key ideas behind react prompting seem to align with the methodology you outlined:

1. Start with general prompting to build foundational skills with the language model.
2. Use the model's responses to inductively identify strengths, limitations and areas that need further probing.
3. Refine prompts deductively based on those insights to dive deeper into specialized domains like law.
4. Repeat this cycle, using the model's evolving outputs to continuously adapt and optimize the prompting approach.

By priming multiple language models on the same issues around legal prompting and observing how they reason through it, you would be employing the core reactive prompting principles of:

- \* Iterative refinement based on model outputs
- \* Comparative analysis across different models
- \* Identifying response patterns to extract insights
- \* Using those insights to construct more targeted and effective subsequent prompts

So in that sense, yes, the reciprocal prompting methodology you described could be viewed as an implementation of the react prompting paradigm applied specifically to the challenge of developing robust legal prompting capabilities.

This iterative, interactive, and self-correcting prompting process does seem well-suited for the nuanced, consistency-critical realm of law.

Does this analysis align with your perspective on leveraging react prompting for legal prompting?

I'm very interested to discuss this emerging area further.