

AI Inventions from a Practitioner's Perspective

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Setting the Premise

- Issues raised when discussing “AI and patents” include issues pertaining to:
 - New inventions that *involve* AI
 - New type of AI
 - New use of existing AI
 - New use of AI result
 - New inventions *discovered* (fully or in part) based on results generated by AI

Let's start with
inventions that
involve AI

The Disclosure Call

- What problem is the invention solving and what advantage is the invention providing?
- What was the prior-art landscape?
- What is the invention?

Follow-Up Questions

- What specific parts of the invention are new and what specific advantages do those parts provide?
 - *Concentrate on technical aspects – NOT THE BUSINESS CASE*
- How do those specific parts work?
- Should we involve anyone else in the discussion as to how those specific parts work?
 - *Ensure that inventors focused on coding are involved*

If AI is integral to the novel components ...

- Does the novel component relate to the model architecture, model parameters, training data, pre-processing, post-processing, loss function?
- Were any hang-ups encountered when identifying the novel component?

If AI is integral to the novel components ...

- Do you have any data showing superiority of your technique?
- Are the metrics that you are using to evaluate performance the typical metrics (or are they “better”)?
- How long/how much data does it take to train your model (compared to the prior art)?
- How robust is your model (compared to the prior art)?

Let's move to inventions
***discovered (at least
in part) by AI***

The Disclosure Call

- When the AI was programmed/incremented:
 - What was the problem to be solved and how was that identified?
 - **What was the type of solution to be determined and how was that identified?**
 - What complications were encountered?
 - What were the technical features of the problem/solution?
 - What were any unexpected results?

The Disclosure Call

- Let's be very clear about who was involved:
 - Who conceived of the problem?
 - How was the target solution identified?
 - Who conceived on the AI?
 - Who programmed the AI?
 - Who interacted with the AI?
 - Who identified any patentable result?
 - Who initiated the patent process?

Complications

- Suppose that the AI may soon be generating amazing novel and non-obvious result:
 - Can the inventor determine/predict the novel/non-obvious aspects of the result?
 - If not, what (if any) IP protections are available for the result?
 - Consider product-by-process claims in Europe
 - Consider trade secret

Drafting the Patent Application

Patent Drafting

- Technical problem / technical solution / technical advantages
- General technology focus of the application
- Emphasis on unexpected results
- Emphasis on why one of skill in the art would not have been motivated ...

Patent Drafting – Claims

- The AI technique/use:
 - Method, computing system, Beauregard, means+function
- Can you claim the result?
- Can you incorporate learned parameters into your claims?

Patent Drafting

- Keep the novel technology (not the market motivation) in mind

- Use AI to draft your AI application?
 - Natural language processing
 - Big data

Prosecuting the Patent Application

Patent Prosecution

- Stay focused on the technical problem / technical solution / technical advantages
- Interview the Examiner
- Consider inventor Declarations and/or interview involvement
- Use big data

Conclusions

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- Stay focused on identifying and emphasizing technical details
- Involve multiple parties
- Use technology