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Subject: comments on AI
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First of all, I currently am prosecuting an application that predicts delivery dates for built to order computers (e.g., you go on the website of a manufacturer and specify the platform, processor, RAM, disk drive, software etc.). One of the aspects involves using AI to predict how weather may affect delivery dates (e.g., don't route through Chicago in the Winter as the snow storms may affect dates). The Examiner and his SPE are very mechanically applying Alice-based 101 rejections and ignoring the novel aspect of using AI.

1. What are elements of an AI invention? AI was traditionally applied for things like medical diagnosis. However, these days, AI can be applied in many areas where patterns can be recognized and responded to. Anything where historical data is used to train a machine learning model is an element related to AI.
2. What are the different ways that a natural person can contribute to conception of an AI invention and be eligible to be a named inventor? Designing the algorithm and/or weighting adaptations, structuring the data on which the algorithm runs, running the AI algorithm on the data and obtaining the results, determining that AI can be applied to a particular problem.
3. Do current patent laws and regulations regarding inventorship need to be revised to take into account inventions where an entity or entities other than a natural person contributed to the conception of an invention? No. Current laws are adequate.
4. Should an entity or entities other than a natural person, or company to which a natural person assigns an invention, be able to own a patent on the AI invention? No
5. Are there any patent eligibility considerations unique to AI inventions? Yes. Alice-based 101 rejections should not automatically be applied. AI is trained using historical data to recognize patterns and make predictions.
6. Are there any disclosure-related considerations unique to AI inventions? For example, under current practice, written description support for computer-implemented inventions generally require sufficient disclosure of an algorithm to perform a claimed function, such that a person of ordinary skill in the art can reasonably conclude that the inventor had possession of the claimed invention. Does there need to be a change in the level of detail an applicant must provide in order to comply with the written description requirement, particularly for deep-learning systems that may have a large number of hidden layers with weights that evolve during the learning/training process without human intervention or knowledge? These days, unlike 10 years ago, AI is quite well understood and so applying AI to a particular problem is generally within the scope of a PHOSITA. That said, mentioning a specific type of machine learning algorithm (e.g., support vector machine) and why such an algorithm should be used, would be helpful.
7. How can patent applications for AI inventions best comply with the enablement requirement, particularly given the degree of unpredictability of certain AI systems? See answer above to #6.
8. Does AI impact the level of a person of ordinary skill in the art? If so, how? For example: Should assessment of the level of ordinary skill in the art reflect the capability possessed by

AI? These days, unlike 10 years ago, AI is quite well understood and so applying AI to a particular problem is generally within the scope of a PHOSITA.

9. Are there any prior art considerations unique to AI inventions? no
10. Are there any new forms of intellectual property protections that are needed for AI inventions, such as data protection? Not sure
11. Are there any other issues pertinent to patenting AI inventions that we should examine? The Alice rejection is the main issue because AI is designed to mimic human decision making to some degree.
12. Are there any relevant policies or practices from other major patent agencies that may help inform USPTO's policies and practices regarding patenting of AI inventions?

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