Q&A from Generative AI Short Course

Here are responses to questions that were unable to be answered live.

# Session 1 Questions (Trevor Watkins)

1. The instructor has mentioned a video on taxonomies and ontologies and he considers it very good to learn about them. may i request to repeat the information for noting it down?

This is the presentation I spoke about: [https://ontologforum.s3.amazonaws.com/OntologySummit2024/TrackA/Without-Ontology-LLMs-are-Clueless--JohnSowa\_20240228.mp4](https://urldefense.com/v3/__https:/ontologforum.s3.amazonaws.com/OntologySummit2024/TrackA/Without-Ontology-LLMs-are-Clueless--JohnSowa_20240228.mp4__;!!MXfaZl3l!aKMOV3Q--4uVQDuhyzqnbjbUeJfHZji6tnawD_aUyodaocOCjl4CIA_geD1KAlU7Rzv9oBJ84SiRmrfRrQGf6u0$) from John F. Sowa.

1. So, regarding specialists in deep learning and LLMs, are the subsets of AI the areas where you see much of the human input in terms of different professions in the development of AI devices, products, and services?

Deep Learning specialists are responsible for the design of the algorithms that power the models learning, they are also responsible for gathering, cleaning the large datasets I spoke about that is used to train deep learning models. This could be data scientists, curators, and specialists with domain specific knowledge. Specialists also configure and reconfigure deep learning models. You will also hear more about prompt engineering in one of the next courses, specialists develop these prompts on the backend to finetune the model’s responses, so when I showed everyone the language that OpenAI and Google states in terms of how they collect and use your data, they collect your prompts as well and feed that into the LLM to fine-tune it. You will learn about ethics also in one of the next courses, Deep Learning and LLMs need AI Ethicists, who are responsible for mitigating bias.

1. I think I missed this while I was exploring ChatGPT myself, when would you recommend using Gemini over ChatGPT?

They are both comparable technologies, however, Google has integrated Gemini within the Google ecosystem, so if you use Gmail, Youtube, Drive, etc. and wish to have Gemini use that data for any inquires you may have, that is one advantage it has over ChatGPT.

1. Does uploading paywalled article PDFs into these programs violate licensing/copyright with publishers?

Or would this be something you'd have to verify on a publisher-by-publisher basis? Yes, uploading paywalled aticle PDF’s generally violate copyright and licensing agreements with publishers, however, for publishers that use open access models where the articles are freely available, you may be able to, but you should still read the journal’s policy just confirm. Also, check fair use and the publisher agreements. Open Access databases like the Directory of Open Access Journals and OER are free to use, but it is still best to check to make sure.

Also, he stated the following: One last thing I forgot to add was the link for the AI tool guru [https://aitoolguru.com](https://urldefense.com/v3/__https:/aitoolguru.com/__;!!MXfaZl3l!Zcp38YuLlNUKsfjKD7xZ-3C8t5GtvuQ_SeA65qYs-y-iO8RXPYyKRv-bNPW9pX1Y_SR64IEvs5ivVa0OusIEhXA$) that I briefly mentioned during the presentation.

# Session 3 Questions (Michael Flierl)

* How do we change the development of AI to include accessibility and inclusion of minoritized voices from the start?
  + I think the data these models are trained on is of the utmost importance. If the data is flawed, the output will be flawed. How these models are fine-tuned through reinforcement learning from human feedback (RLHF) is also important. Therefore transparency is one way to go about this—if people can scrutinize the data/fine-tuning, we could investigate how these data could exclude minoritized voices, for instance.
  + There’s also an educational element to this—AI can be viewed as reliable as a calculator (it isn’t). If we misplace our trust in these AI models, or trust the companies creating them (and only a few companies have access to the data and AI expertise to create such models) then there are real hazards for various populations. I believe we’re responsible for teaching the next generation of professionals, and democratic citizens, in how these models work, some of their fundamental issues, and why there are still real challenges regarding accessibility and minoritized voices.
  + So to summarize, if nothing changes the status quo will continue to bring challenges for accessibility and minoritized voices. But we have the power to advocate for safe, reliable, transparent, and explainable AI systems. The future is not pre-determined for AI. We have power to demand AI that is human-centered. While you may not feel comfortable with AI, that does not preclude you for advocating for accessibility, equity, diversity, and inclusivity.
* Our department head is looking for a measurable AI metric that's achievable in a fiscal year - any thoughts or suggestions?
  + I’m sorry to say I don’t fully understand exactly what this question is asking. The Library of Congress did just release this which may be of interest: [https://blogs.loc.gov/thesignal/2023/11/introducing-the-lc-labs-artificial-intelligence-planning-framework/](https://urldefense.com/v3/__https:/blogs.loc.gov/thesignal/2023/11/introducing-the-lc-labs-artificial-intelligence-planning-framework/__;!!MXfaZl3l!cV7I7qSSt_OeR3NddljYBLbKEcpGnH4j-HBtjosuFbxZLedqrW-pTosctGNGsDdRPIR0aMWF_31DCF7CmxzDS90$).
  + I will also say “metrics” around AI and academic libraries is still more or less non-existent. Assessing the efficacy of AI in academic library settings is a huge area of potential research and investigation.
* We’re trialing a new clinical tool that uses AI Chat. It accesses a set proprietary database, so the data set is known and limited. What questions should we be asking at this early stage?
  + Great question. I would want to know what *kind* of AI is being used for chat. Is it powered by a large language model (and if so, which?) or another form of AI? This sounds like a form of RAG tech but I’m not sure.
  + I’d also be curious about any benchmarking they are doing for accuracy, reliability, etc. I would want to be able to understand the relationship between the AI and the proprietary database.
  + I would also like to determine what would count as a success, internally, for its use. I would recommend a trial period where the tool is assessed—and what counts as success (and what counts as failure) would be important questions to grapple with internally before the tool is broadly used. For instance, does this actually save time? What does the AI *miss*? I’d also recommend the LOC link above to check out for a more formal process.