

Cross Track Correlations – Preliminary (Ravi Sharma)

Ontology Summit 2019 - Explanations		PRELIMINARY TO BE VOTED			
Cross Track Correlations	Commonsense	Narrative	Financial	Medical	XAI
Commonsense	X	1	2	3	
Narrative	1	X	5	6	7
Financial	2	5	X	10	8
Medical	3	6	10	X	9
XAI	4	7	8	9	X

See scores below

Preliminary Scores requires Voting.

Cross Track Correlation		
1	S	Strong, need each other, implicit context and provenance, almost necessary for interpretation across all tracks
2	M	Medium, (Almost Low for rule based such as transactions, Basal, etc.)
3	S	Strong, e.g. transcripts necessary for interpretation - provider and staff notes and reports
4	M	Medium - needed for reasoning
5	M	Medium - e.g. mostly contracts and agreements for transactions that need usually fixed narrative
6	S	Strong, e.g. transcripts necessary for interpretation - provider and staff notes and reports
7	M	Medium - Needed for reasoning
8	M	Medium - needed for narration
9	S	Strong e.g. for clinical query and provenance tracking and medical history
10	S	Strong e.g. for billing and tracking expenses

NOTES:

1. Benjamin Grosf rule-based example for finance is an example of cross track item between commonsense rules and finance
2. Niket Tandon's challenge ties with last years' summit topic Context and situational awareness
3. Question for Janet - it appears you also addressed lot of logic and preferences of users and how does that tie with narratives, am I reasonable in assuming that there is strong x-track correlation and overlap between Commonsense and Narrative as related to Explanation and more generally all of AI?
4. Gary: @Ravi asked, "Niket's explanation of continuity of existence of ball or basket, does it not assume situational awareness?" Yes, he called it commonsense aware and discussed it as understanding the agent, event, object and process - the ingredients of a situation.
5. Do ontologies play same role for explanations in different tracks or is there difference and differential benefit for each track?
6. Questions on Ontology integration for explanations (tracks?) Gary: Locality would be important factor in building a useful contextualized KB on the fly. But background K is important to determine relevance and meaning in the sense of what is connected and how. TerryLongstreth: @Gary - I've run out of time but the followup to my question was going to be about the ML or DeepL systems discovering ontologies and assigning probabilistic values to accommodate (machine generated) evolution of the ontology; the ontology could then be applied to generation of explanation(S). AmitSheth: @Terry: not in that paper - learning from data represented in probabilistic model was mapped to knowledge structure/ontology; we are doing now integrating knowledge (comonents) into deep learning now (manuscripts in progress, will go on Arxiv).
7. Janet – Narration: Relating issues of narrative (story, discourse, conversalon rules, context, agency, beliefs, desires, intents, etc.) and explanatory theories (requiring ontologies).
8. From Gary, cross track CSK: Cross-Track Integration. As Speaker Sargur Srihari noted Probabilistic Approach are important in AI Explanations. – Traditionally knowledge being represented using probabilistic graphical models such as Bayesian networks, Markov networks, Restricted Boltzmann machines, etc. – More recent efforts are better suited for explainability, which has methods for most probably explanation (MPE). Interpretable models using ideas such as causality are important as is the approach to induce “models” from DL systems. In XAI there is also the idea of reasonableness/CSK of explanation. Handling Financial system requirements using ErgoAI which was implementation of Rulelog (Grosf) and featured: Semantic ncode regulations and related info allows fully, robustly automate run-time decisions and related querying. Handles increasing complexity of real-world challenges. Provide understandable full explanations in English. Proof is an Electronic audit trail, with provenance. More