Meta-X: Discovering Metadata Using Deep Learning

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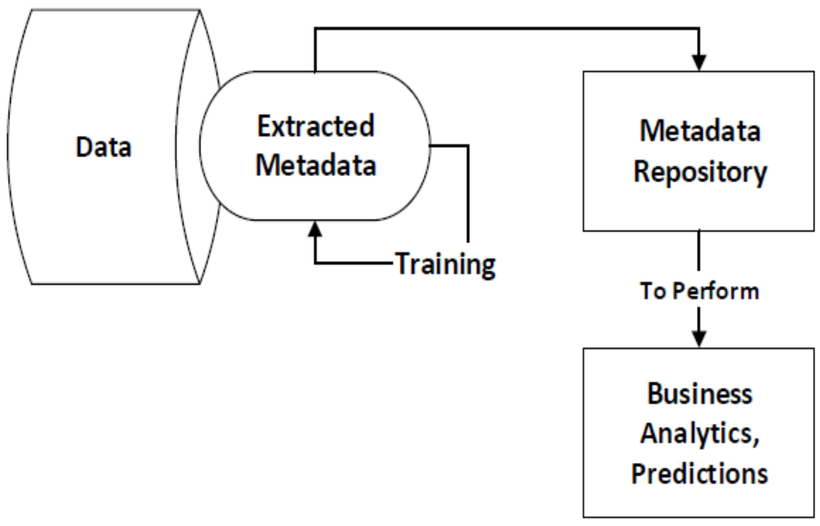
1. Problem Definition

- Highly Complex data
- The training of metadata to attain powerful insights into business intelligence
- Using metadata governance to derive accurate predictions
- Minimizing the traversal costs per query over the semantic web
- Self-actualization for AI agents to develop intelligent metadata

2. Introduction



Metadata depends upon the domain. A general purpose systems can be designed using a generalized metadata functionality for example the use of customer process as a metadata class.

3. Metadata

Descriptive

- For discovery of data
- For displaying data

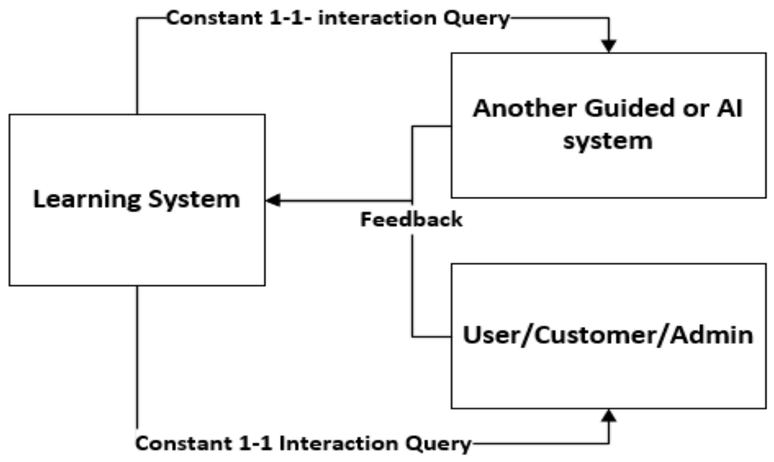
Structural

- Navigation
- Relationship description

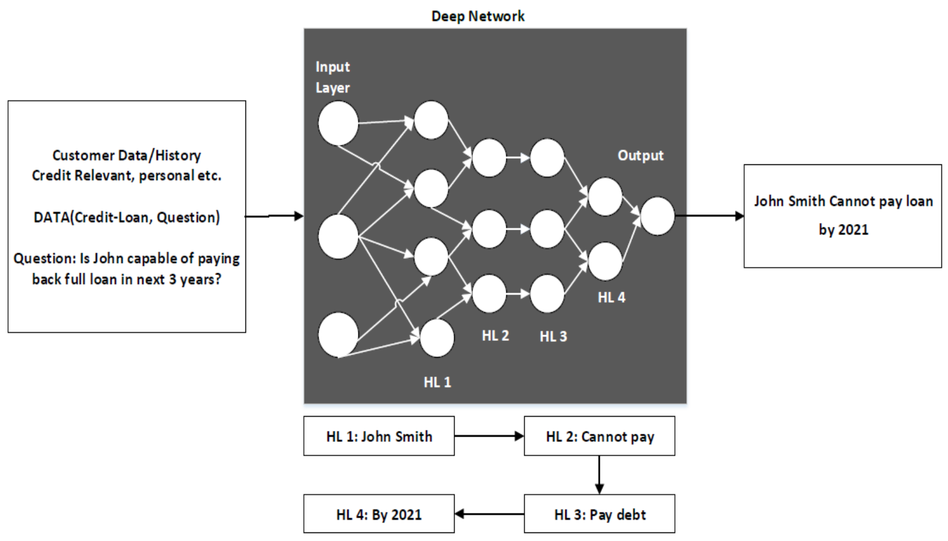
Administrative

- Technical data creation
- Quality control

4. Active Data Learning

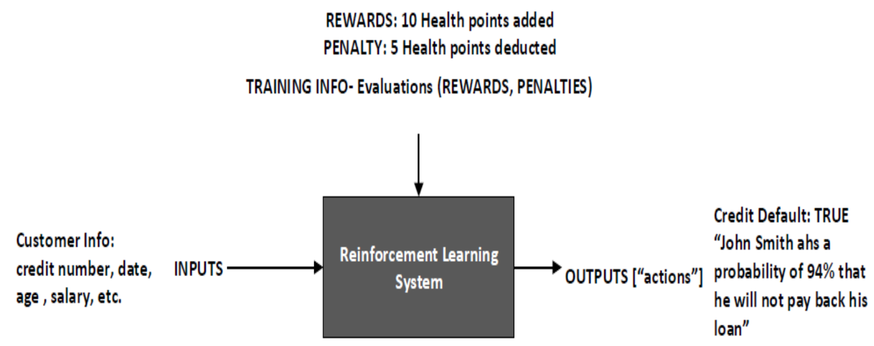


5. Deep Learning



- Scenario Query: If john will pay back his debt by the end of 2021?
- Each hidden Layer has a unique feature function that provides output answering the query
- Each query is not an input to the system but relevant metadata is !

6. Reinforced Metadata



- The system learns from its feedback on predictions, analysis, classifications etc.
- Each learning phase comprises of rewards or penalties based

7. Experiment Design

1. Creating a test bed for metadata processing
2. Testing the efficiency for metadata enrichment
4. A deep neural net for self-actualized metadata repository/library
3. Process able metadata for knowledge development
5. Accuracy of predictions based on deep metadata
6. Test bed for the case of "Unknown Meta-queries'
7. Feedback generation for reinforcement

References

[1]Punit Pandey, Deepshika Pandey, Dr. Shirshir Kumar, "Reinforcement Learning by Comparing Immediate Reward," (IJCSIS) August 2010.
[2]Volodymyr Mnih Koray Kavukcuoglu David Silver Alex Graves Ioannis Antonoglou Daan Wierstra Martin Riedmiller, "Playing Atari with Deep Reinforcement Learning", DeepMind Technologies.

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