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Batch-5 AI & ML

Test - 1

Q.1

Rule-Based fraud detection

1.Catching obvious fraudulent scenarios.

2. Requires much manual work to enumerate all possible detection rules.

3. Multiple verification steps may become threat to user experience.

4. Long term processing

ML-Based fraud detection

1. Finding hidden and implicit correlations in data.

2. Possible fraud scenario detection happens automatically.

3. Reduction in the number of verification measures.

4. Real time processing

Pros and cons of using Ml for Fraud Detection are:

Pros:

- Scale and speed
- Reduced manual labor
- Unbiased analysis

Cons:

- Cost
- High levels of mandatory technical expertise
- Difficult collection of good data

Q.2

Sentiment analysis is a sub-field of NLP that tries to identify and extract opinions within a given text across blogs, reviews, social media, forums, news etc.

- The concept of applying natural language processing and text analysis techniques to recognize and draw out subjective information from a piece of text is called sentiment analysis.Another name given to sentiment Analysis is opinion mining, which is an area within Natural Language Processing (NLP) which builds up systems that can recognize and withdraw opinions within text.
- LSTM networks are a type of RNN that uses special units in addition to standard units.
- LSTM units include a 'memory cell' that can maintain information in memory for long periods of time.
- A set of gates is used to control when information enters the memory, when it's output, and when it's forgotten. This architecture lets them learn longer-term dependencies.

Q.3

- Real time analytic is used in analysis of data as soon as the data become available.
- As soon as the data entered the system the customers were able to draw conclusions.
- Social sites like Facebook, Twitter and Instagram were used to advertise their products and services to brand it across the globe, media customers and entertainment customers had intensively high competition.

Q.4

Deep learning techniques on recommender systems:

- Building recommender systems for collaborative and content-based approaches, deep learning has been suggested.
- Collaborative filtering technique is based on the resemblances of the users and it's built on collecting and analyzing information of user's activities such as their behaviors or choices.
- Restricted Boltzmann Machines (RBM) for collaborative filtering: – The special version of Boltzmann Machine (BM) consists of layer hidden components and a layer of visible components with no hidden-hidden or visible-visible contacts is the Restricted Boltzmann Machine (RBM).
- Collaborative deep learning for recommender systems: – Collaborative deep learning for recommender systems was introduced to address the cold start problems and it utilizes review texts and ratings. •
- Bayesian Stack De-Noise AutoEncoder (SDAE) and Collaborative Topic Regression (CTR) is integrated into collaborative deep learning.