a) Annotation Process Case 1

LLM Pre-Annotation

Conclusion

Anomaly Description: Violation of the rule **<Records share the same transaction ID, their other information must be identical>**

Involved Records: [1, 3, 4]

Explanation: These records share the same transaction ID <403000456796307> but differ in other fields (payment account, address information).

Involved Certificate Images and Corresponding IDs

[1, 2, 3, 4]

Human Annotation

Conclusion

1. True Positive (TP): Actual-Anomaly, Predicted-Anomaly (Correct)

2. False Positive (FP-A)*: Actual-Anomaly, Predicted-Anomaly (Incorrect)

3. False Negative (FN)*: Actual-Anomaly, Predicted-No Anomaly

4. False Positive (FP-N): Actual-No Anomaly, Predicted-Anomaly

5. True Negative (TN): Actual-No Anomaly, Predicted-No Anomaly

Select Images Containing Anomalous Elements

[1] [2] [3] [4] [5] [6]

Revised Anomaly Conclusion

Anomaly1. { Description: Violation of the rule **<Same transaction ID → identical payment account>. Explanation:** These records share the same transaction ID <403000456796307> but have different payment accounts. **}**

Anomaly2. { Description: Violation of the rule **<Same transaction ID → identical payment account>. Explanation:……** **}**

b) Annotation Process Case 2

LLM Pre-Annotation

Conclusion

Anomaly Description: Violation of the rule **<Records with different proof numbers, other information may or may not be related>**

Involved Records: [1, 2]

Explanation: These records have different proof numbers<ShunShui(2024)1234> but share identical taxpayer names, taxpayer IDs, document types, document numbers, expiration dates, issuing units, and issue dates, violating the rule.

Involved Certificate Images and Corresponding IDs

[1, 2, 3, 4]

Human Annotation

Conclusion

1. True Positive (TP): Actual-Anomaly, Predicted-Anomaly (Correct)

2. False Positive (FP-A)*: Actual-Anomaly, Predicted-Anomaly (Incorrect)

3. False Negative (FN)*: Actual-Anomaly, Predicted-No Anomaly

4. False Positive (FP-N): Actual-No Anomaly, Predicted-Anomaly

5. True Negative (TN): Actual-No Anomaly, Predicted-No Anomaly

Select Images Containing Anomalous Elements

[1] [2] [3] [4] [5] [6]

Revised Anomaly Conclusion

Anomaly1. { Description: Violation of the rule **<Same Certificate ID → identical taxpayer ID>. Explanation:** These records share the same Certificate ID <ShunShui(2024)1234> but have different Taxpayer IDs. **}**

c) Annotation Process Case 3

LLM Pre-Annotation

Conclusion

Anomaly Description: Violation of the rule **<Records share the same business license number, their certified entity, store name, store address, certification date, and issuing unit must be identical>**

Involved Records: [1, 5]

Explanation: The records share the same business license number<91370203MA1Y546P5U> but differ in store name and store address, violating the rule.

Involved Certificate Images and Corresponding IDs

[1, 2, 3, 4, 5]

Human Annotation

Conclusion

1. True Positive (TP): Actual-Anomaly, Predicted-Anomaly (Correct)

2. False Positive (FP-A)*: Actual-Anomaly, Predicted-Anomaly (Incorrect)

3. False Negative (FN)*: Actual-Anomaly, Predicted-No Anomaly

4. False Positive (FP-N): Actual-No Anomaly, Predicted-Anomaly

5. True Negative (TN): Actual-No Anomaly, Predicted-No Anomaly

Select Images Containing Anomalous Elements

[1] [2] [3] [4] [5] [6]

Revised Anomaly Conclusion

None