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Final Assignment: Data Analysis in Action

 **Reading:** Using Data Analysis for Detecting Credit Card Fraud
10 min

 Graded Assignment: Peer-Graded Final Assignment

 Review Your Peers: Peer-Graded Final Assignment

Course Wrap-Up

Graded Assignment: Peer-Graded Final Assignment

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Discussions

Analysis of Credit Card Fraud

Submitted on January 11, 2024

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PROMPT

List at least 5 (five) data points that are required for the analysis and detection of a credit card fraud. (3 marks)

1. IP Address
2. Shipping Address
3. Transaction Date
4. Transaction Value
5. Product Category
6. Units purchased

RUBRIC

Did the learner list 5 or more data points out of the 8 data points listed below that are required for the analysis and detection of a credit card fraud?

1. Card holder / Customer Id
2. Transaction date
3. Transaction time
4. Transaction value
5. Shipping address
6. IP address
7. Device model
8. Location

3 points

Correct. The learner listed 5 or more data points out of the 8 data points listed below that are required for the analysis and detection of a credit card fraud.

1. Card holder / Customer id
2. Transaction date
3. Transaction time
4. Transaction value
5. Shipping address
6. IP address
7. Device model
8. Location

2 points

Partially Correct. The learner listed 3 to 4 data points out of the 8 data points listed below that are required for the analysis and detection of a credit card fraud.

1. Card holder / Customer id
2. Transaction date
3. Transaction time
4. Transaction value
5. Shipping address
6. IP address
7. Device model
8. Location

1 point

Partially Correct. The learner listed 1 to 2 data points out of the 8 data points listed below that are required for the analysis and detection of a credit card fraud.

1. Card holder / Customer id
2. Transaction date
3. Transaction time
4. Transaction value
5. Shipping address
6. IP address
7. Device model
8. Location

0 points

Incorrect. The learner did not list any data points out of the 8 data points that are required for the analysis and detection of a credit card fraud.

PROMPT

Refer to the data table below and identify 3 (three) errors/issues that could impact the accuracy of your findings. (3 marks)

[illegible]

1. Missing transaction value
2. Missing IP address
3. Inconsistent date format

RUBRIC

Did the learner identify at least 3 errors/issues that could impact the accuracy of the findings?

Some of the issues that could impact the accuracy of findings include:

- Missing transaction value
- Missing IP Address
- Date format inconsistency

3 points

Correct. The learner identified 3 errors/issues that could impact the accuracy of the findings.

○ 2 points

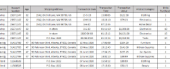
Partially Correct. The learner identified at least 2 errors/issues that could impact the accuracy of the findings.

1 point

Partially Correct. The learner identified 1 error/issue that could impact the accuracy of the findings.

0 points

Incorrect. The learner did not identify any error/issue.

PROMPT	RUBRIC
<p>Refer to the data table below and identify 2 (two) anomalies or unexpected behaviors, that would lead you to believe the transaction may be suspect. (2 marks)</p>  <p>1. In the case of johnp, for the transaction with the highest transaction value, the IP address is different from their previous purchases. The latest purchase is missing an ip address. This might indicate the last 2 purchases were made by another user</p> <p>2. In the case of elend, there is a discrepancy in IP address between their older purchases and most recent purchase. The shipping address is also different from their older purchases. Finally, based on limited information, their purchase pattern is a bit different from their earlier purchases were for clothing & beauty supplies which is less than \$100 but the more recent purchase is for a laptop costing almost \$5000. This may indicate a mismatch in purchase pattern and may indicate fraudulent purchase.</p>	<p>Did the learner identify 2 anomalies, or unexpected behaviors, that would lead them to believe the transaction may be suspect?</p> <p>Some of anomalies in the provided data set include:</p> <ul style="list-style-type: none"> Significantly higher Transaction Value where Shipping Address has been changed from home/office address to P.O. Box. Higher Transaction Value and increased frequency of transactions. IP Address change and significantly higher Transaction Value. IP Address change and Shipping Address change <p>Note: It is OK for the learners to answer this in their own words.</p> <div> <div> <p>2 correct</p> <p>Correct. The learner identified 2 anomalies or unexpected behaviors that would lead them to believe the transaction may be suspect.</p> </div> <div> <p>1 point</p> <p>Partially Correct. The learner identified 1 anomaly or unexpected behavior that would lead them to believe the transaction may be suspect.</p> </div> <div> <p>0 points</p> <p>Incorrect. The learner did not identify an anomaly or unexpected behavior.</p> </div> </div>

PROMPT

Briefly explain your key take-away from the provided data visualization chart. (1 mark)

Transaction	johnp	johnd	ellend
Trans1	0	0	0
Trans2	1000	500	500
Trans3	2000	1000	1000
Trans4	3000	1500	1500
Trans5	1000	1000	1000

The visualization depicts the transaction value per transactions for the three customers (johnp, johnd, ellend). From the line graph, we can see that there is a sharp rise in transaction amount for johnp and ellend for their later transactions which could indicate an anomaly in their spending habits.

SOLUTION

Did the learner explain a key take-away from the data visualization chart?

The visualization depicts the transaction values per transaction for all three users. The **key take-away** from this visualization is the sharp rise in the transaction values for users johnd and ellend, which may be indicative of an anomaly.

Note: it is OK for the learners to answer this in their own words.

☒ 1 point
Correct. The learner provided a key take-away.

☐ 0 points
The learner did not provide any key take-away

PROMPT	RUBRIC
<p>Identify the type of analysis that you are performing when you are analyzing historical credit card data to understand what a fraudulent transaction looks like.</p> <p>Hint: The four types of Analytics include: Descriptive, Diagnostic, Predictive, Prescriptive. (1 mark)</p> <p>The type of analysis that we are performing is descriptive analysis.</p>	<p>Did the learner identify the type of analysis that they are performing when they are analyzing historical credit card data to understand what a fraudulent transaction looks like?</p> <p><input checked="" type="radio"/> 1 point Correct. The learner identified 'Descriptive Analytics' as the type of analysis that they are performing when they are analyzing historical credit card data to understand what a fraudulent transaction looks like.</p> <p><input type="radio"/> 0 points Incorrect. The learner did not identify the type of analysis as 'Descriptive Analytics'.</p>

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Comments

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