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Unit 1: Discussion

The Role of Statistics in Predictive Analytics

Hello Class,

I wanted to briefly discuss my history and the reasons behind my special interest in predictive analytics and fraud prevention. I began my work with Uber as a fraud analyst, where my duties included analyzing and stopping fraudulent activity by drivers as well as riders. I learned a lot about the significance of maintaining platform security from this work. Afterwards, I moved to Goldman Sachs, where I became an expert in identifying credit card fraud. As part of my work, I had to analyze transaction data to prevent fraud for the company and its clients.

My background in these fields has always piqued my interest in the application of predictive analytics to fraud prevention. In this discussion, I will cover two real world instances credit card fraud detection and fraud prevention in the ride sharing business, where predictive analytics is applied.

Example 1: Fraud Prevention in the Ride-Sharing Industry

Source of Data: Ride sharing businesses such as Uber collect copious amounts of data from routine travels. This information covers everything, such as the beginning and ending locations of journeys, their duration, user behavior, and method of payment for rides (Financial Fraud Consortium, n.d.; Neural Technologies, n.d.).

What is Being Predicted: Predicting and stopping fraud is the primary objective. This could entail identifying drivers who would fabricate their GPS location in order to get reimbursed for journeys they never took or identifying fictitious accounts made in order to take advantage of special deals (Neural Technologies, n.d.).

Statistical Methods Used for Prediction: Ride sharing businesses look for patterns that could point to fraud using machine learning algorithms. The system may identify possible fraud, for example, if a driver's trip data is illogical, the route taken is strange, or the trip duration is too long. Over time, these algorithms become increasingly adept at spotting suspicious activity since they are continuously picking up new information and adjusting to it (Financial Fraud Consortium, n.d.; Neural Technologies, n.d.).

Reference to Description of the Case: I have examples from my time at Uber, where predictive analytics played a critical role in keeping the platform secure and safe for all users. Also, multiple other online sources explain how this ride sharing industry is affected (Neural Technologies, n.d.; Uber, n.d.).

Example 2: Credit Card Fraud Detection

Source of Data: Credit card firms and banks examine enormous volumes of transaction data in the financial sector. This contains details about how much money is spent, where it is spent, and when it is spent (7t, n.d.; Staff Writer, n.d.).

What is Being Predicted: Unauthorized charges, online fraud, and account takeovers are examples of credit card fraud that is being predicted and prevented (7t, n.d.; Staff Writer, n.d.).

Statistical Prediction Techniques: Credit card companies use machine learning to identify anomalous usage patterns of their cards. For instance, it can be suspected of fraud if someone starts using their card erratically in several places or makes sudden large purchases. As they

gain knowledge from fresh data, these predictive models keep getting better, which lowers false positives and increases the accuracy of fraud detection (Staff Writer, n.d.).

Reference to Description of the Case: This example is based on my experience at Goldman Sachs, where predictive analytics played a critical role in safeguarding the business and our clients against fraudulent activity. Also, we can find multiple articles online examining about credit cards and payment related frauds (DataDome, n.d.; Goldman Sachs, n.d.).

Conclusion

These illustrations show how crucial statistically based predictive analytics is for anticipating and stopping fraud across a range of businesses. Businesses can take proactive and reactive measures to safeguard their operations and clients by examining data and seeing trends. I cannot wait to hear your opinions and continue our conversation about this subject!

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