Big Data in Amercian Express-Case study

What is American Express

American Express is a **170 year old company** that was able to reposition itself as an **innovator** and **pionee**r in the use of **Big Data for fraud detection and credit underwriting**.American Express is a **$100bn** market cap payments company that provides card-issuing, merchant-acquiring, and card network services to its clients. It executes around **$1 trillion** in transactions every year, leading to troves of data being accumulated each time a client swipes an American Express card, or each time an American Express merchant executes a sale.A key cost for American Express is covering for fraudulent transactions that take place through its payments network or by the use of its cards.

Big Data Analytics:

Big data analytics refers to **the systematic processing** and **analysis of large amounts of data** and **complex data sets**, known as **big data**, to extract **valuable insights**. Big data analytics allows for the uncovering of trends, patterns and correlations in large amounts of raw data to help analysts make data-informed decisions.

challenges:

The challenges to **detecting credit card fraud in real time** include the **volume of transactions**, **uniqueness of frauds**, ingenuity of fraudsters, **unbalanced fraud data**, absence of benchmarks and standard evaluation metrics, lack of sharing research findings, and difficulties in accessing confidential transaction data

American Express uses Big Data(Solution):

suppose there is a customer named gina. Gina is loyal amex customer and she has american gold card.

Our fraud team checks for **RNN score** using innovtive technology such as **Deep learning technique** to identify potential faurd earlier faster and more accurately. when gina score stay **low** we approve each transaction with our System learning and every time

If gina card is stolen , our big data analystics notice the **suspicious changing** in spending habit and with **high rnn score.**