CREDIT CARD FRAUD DE TECTION

problem statement

- Develop an effective and scalable credit card fraud detection system using machine learning techniques to identify and prevent fraudulent transactions in real-time, minimizing financial losses and ensuring a seamless user experience for legitimate customers.

DESIGN THINKING

- Design thinking is a user-centered approach to problem-solving that involves empathizing with users, defining the problem, ideating solutions, prototyping, and testing.
- Phases of design thinking in credit caurd fraud detection:
- 1.Empathize
- 2.define
- 3.ideate
- 4.prototype
- 5.test.

EMPATHIZING WITH USER

- Understand the needs and pain points of both customers and financial institutions.
- Collect and analyze data on past fraudulent transactions and their impact on customers and businesses.
- Interview fraud analysts, security experts, and customers to gain insights into their perspectives and challenges.

DEFINING THE PROBLEM:

- Clearly define the problem by identifying the main issues in credit card fraud detection.
- Create a problem statement that addresses the key concerns, such as reducing false positives, improving detection accuracy, and enhancing customer experience.

IDEATING SOLUTIONS:

- Developing advanced anomaly detection algorithms.
- Implementing real-time transaction monitoring.
- Enhancing user authentication and verification processes.
- Exploring behavior-based modeling for fraud detection.
- Using deep learning models for pattern recognition.

- Encourage cross-functional collaboration among data scientists, engineers, domain experts, and UX designers to brainstorm innovative solutions.

PROTOTYPE

- Create prototypes or mock-ups of potential solutions. For instance:
- Develop a user interface for fraud analysts to investigate suspicious transactions efficiently.
- Create a machine learning model prototype for fraud detection and prevention.
- These prototypes should be low-cost and easy to modify based on feedback.

TESTING

- Gather feedback from stakeholders, including fraud analysts, customers, and technical experts, on the prototypes.
- Iterate on the prototypes based on the feedback received.
- Conduct simulations or pilot tests to evaluate the effectiveness of the proposed solutions.

THANK YOU