Data Flow

Sources



Amex_Data

Object Type: CSV files

Interface: Files in folder

Business Understanding

- Company
- Problem
- Impact
- Goal
- Constraints



Feature Engineering

- Create new features
- Select only those features relevant to the business goal
- Encode categorical features
- Scale numerical features



Data Preprocessing

- Handle missing values
- Drop irrelevant columns
- Change naming format
- Fix Inconsistencies
- Handle duplicates



Model Training

- Train models
- Evaluate models
- Choose the best one
- SHAP analysis for model explainability
- Save model



Business Importance

- Calculate business impact based on Amex industry average
- Use feature importance to check which factors drive credit risk
- Build a model stability & validation report
- Find optimal risk threshold that balances business cost
- Build an executive dashboard
- Generate a model card



Production Deployment

- Checks **Risk scores** with threshold
- Show decision
- Evaluate reason
- Show the top risk factors
- Keep a track of the time at which the event took place