IndustriAI Hackathon 2025

REDEFINING CREDITWORTHINESS: REAL-TIME RISK INSIGHTS WITH ALTERNATIVE DATA

***Problem Statement Code**: Real-Time Credit Risk Assessment Using Alternative Data*

Team Name: Quantum Coders

Institution Name: Sri Jayachamarajendra college of Engineering

Github : https://github.com/KChandraSekhar265/CreditScore

MEMBERS:

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Credit Risk Assessment

Advanced risk scoring based on comprehensive financial data

Age
0

Annual Income ($)
0

Employment Length (years)
0

Loan Amount ($)
0

Home Ownership
Rent

Loan Purpose
Personal

Previous Defaults
No

Calculate Risk Score

PROTOTYPE

Credit Risk Assessment

Advanced risk scoring based on comprehensive financial data

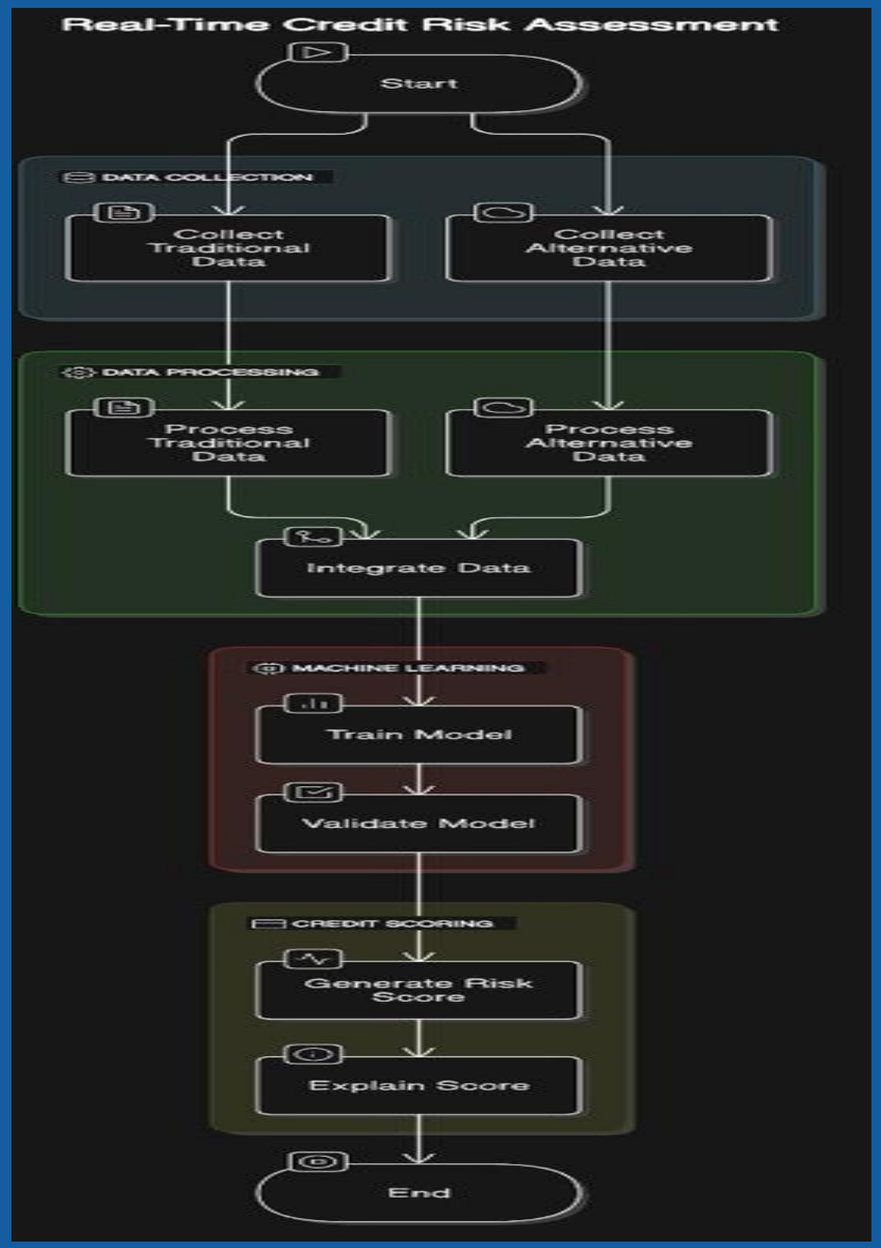
Risk Score: 31

High Risk

Default Probability	69.4 %
Confidence Score	95 %

Start New Assessment

Credit Score Calculations:



Traditional Data: Credit scores, debt levels, and income
Alternative Data: Social media sentiment, utility payment records, and spending behavior.
Metrics: Evaluate model performance using metrics like Accuracy, Precision, Recall, and F1-Score. Visualize results through a confusion matrix or AUC-ROC curve.
Transparency: Ensure the model is explainable (using SHAP values or feature importance), fair, and compliant with data privacy regulations like GDPR.

Probability of Default (PD):

$$P(\text{Default}) = \frac{1}{1 + e^{-(\beta_0 + \sum \beta_i X_i)}}$$

Loss Given Default (LGD):

$$\text{LGD} = 1 - \frac{\text{Recovery Value}}{\text{EAD}}$$

Expected Loss (EL):

$$\text{EL} = \text{PD} \cdot \text{LGD} \cdot \text{EAD}$$