



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 %

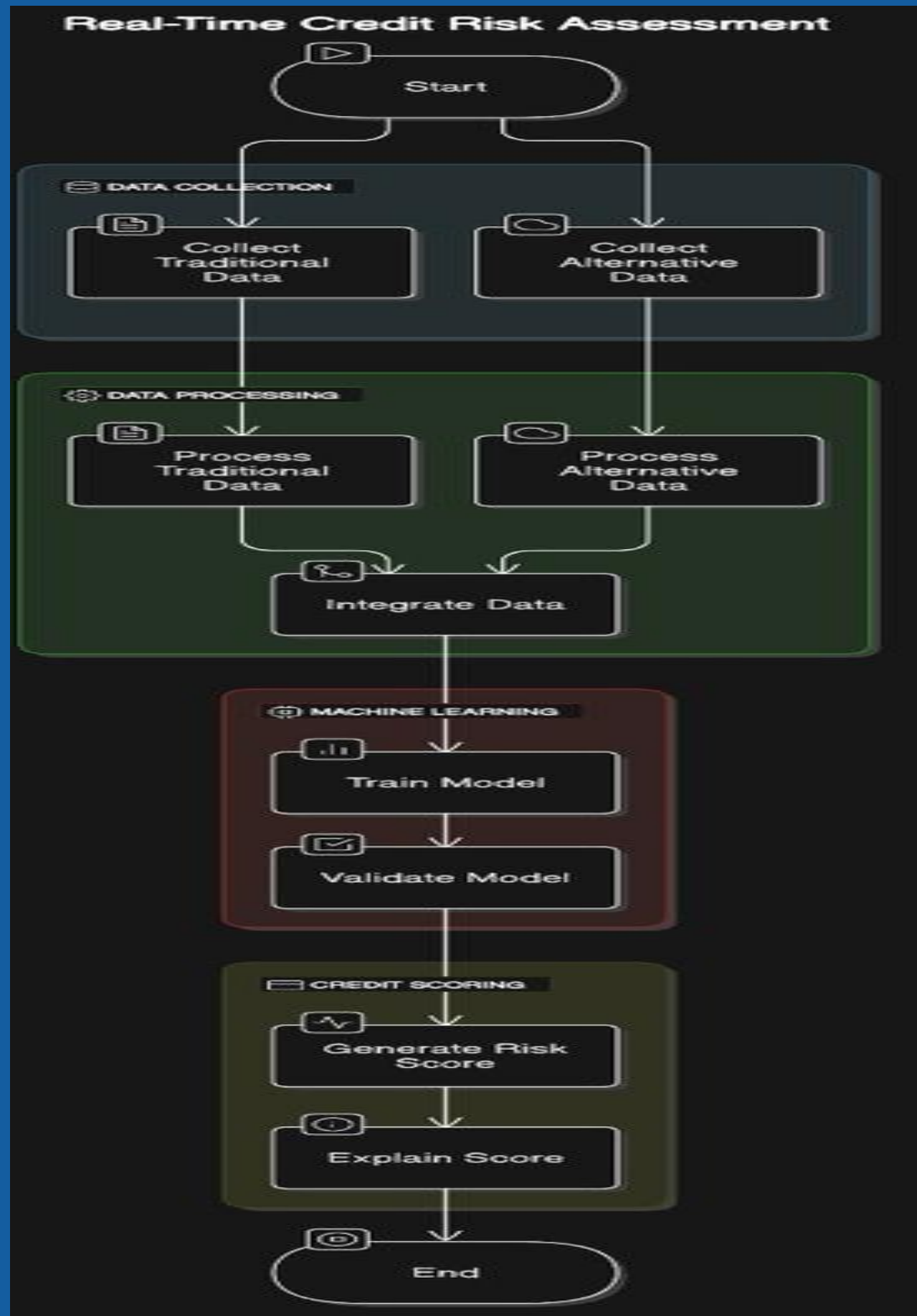
Confidence Score

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):

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