PATENT BY 3SD SOLUTIONS AND SERVICES PRIVATE LIMITED

1. **PATENT NUMBER:** 02
2. **PROVISIONAL PATENT NO:** TEMP/E-1/86797/2025-KOL
3. **APPLICATION NUMBER:** 202531078859

4. PATENT REMARKS:

AI-POWERED RISK SCORING ORACLE FOR BLOCKCHAIN-BASED INVOICE TOKENIZATION AND DECENTRALIZED FINANCIAL SETTLEMENT

5. FIELD OF INVENTION:

This invention introduces a novel **AI-Powered Risk Scoring Oracle** that is absent in existing solutions, combining blockchain technology with a proprietary machine learning model, advanced AI-driven financial risk assessment, KYB/AML verification, and programmable escrow mechanisms. It enables secure, transparent, and automated invoice settlement in decentralized environments by assessing buyer creditworthiness and associated risks in real time through blockchain oracles.

6. DESCRIPTION OF PATENT:

a) The invention provides an AI-Powered Risk Scoring Oracle that integrates with blockchain-based invoice tokenization systems, enabling real-time, AI-derived financial risk scoring for tokenized invoices such as non-fungible tokens (NFTs).

b) The proprietary AI model processes multiple input features, including buyer payment history, industry trends, and invoice frequency, to generate precise risk assessments.

c) The system addresses limitations in traditional invoice financing and DeFi-based invoice marketplaces by merging decentralized ledger technology, AI-powered compliance checks, and hybrid on-chain/off-chain data processing for accurate and dynamic risk assessment.

d) In operation, the oracle assigns each tokenized invoice a dynamic risk score derived from historical payment data, contextual financial indicators, and predictive machine learning models, while storing related KYB (Know-Your-Business) and AML (Anti-Money Laundering) validation results directly in the NFT metadata.

e) The on-chain scoring output directly governs payout decisions, enabling automated, transparent settlement flows based on the assigned risk score.

f) A dynamic ROI (Return on Investment) adjustment logic is embedded in the system, allowing investor returns to be modified in real time according to changing invoice risk profiles and market conditions.

g) The invention utilizes hybrid chain-external callbacks, enabling secure off-chain AI computation and feeding the results back on-chain to update invoice risk scores in real time, thus improving decision-making for investors, liquidity providers, and traders.

h) A milestone-based programmable escrow mechanism is integrated, ensuring funds are locked and released only when predetermined conditions—such as invoice payment confirmation or delivery verification—are met, thereby reducing counterparty default risk.

i) The system incorporates automated liquidity governance, enabling tokenized invoices to participate in decentralized finance (DeFi) pools or marketplaces, with smart contracts managing ROI payouts transparently and in compliance with governance rules.

j) The invention supports a DAO-enabled invoice marketplace, allowing decentralized community governance over trading policies, dispute resolution, and rule updates without relying on centralized intermediaries.

k) Benefits of the invention include accelerated settlement speeds through blockchain automation, improved transparency by embedding real-time risk and compliance data in invoice tokens, enhanced investor security via escrow-backed transactions, increased liquidity from fractional invoice trading, and adherence to financial regulations through AI-assisted KYB/AML checks.

7. PATENT DIAGRAMS:

Diagram 1:

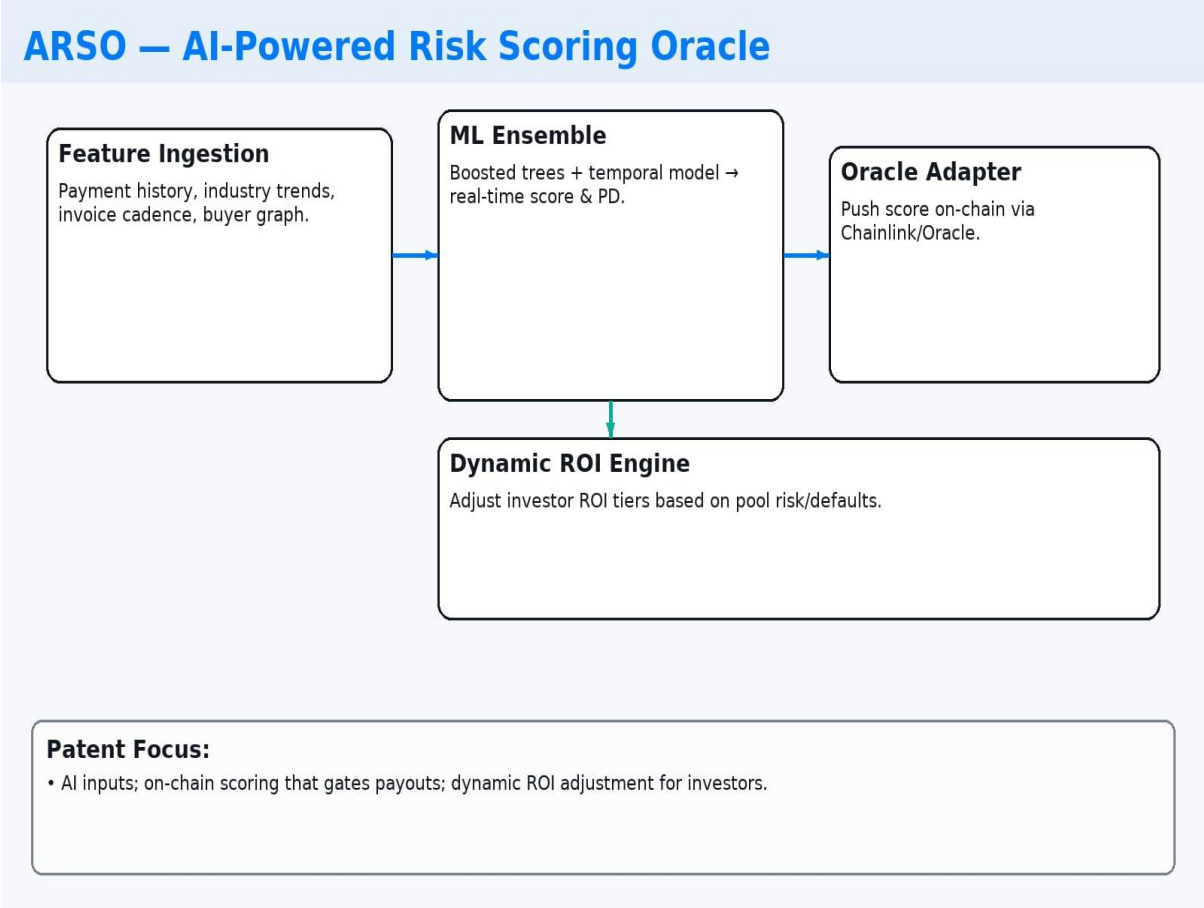
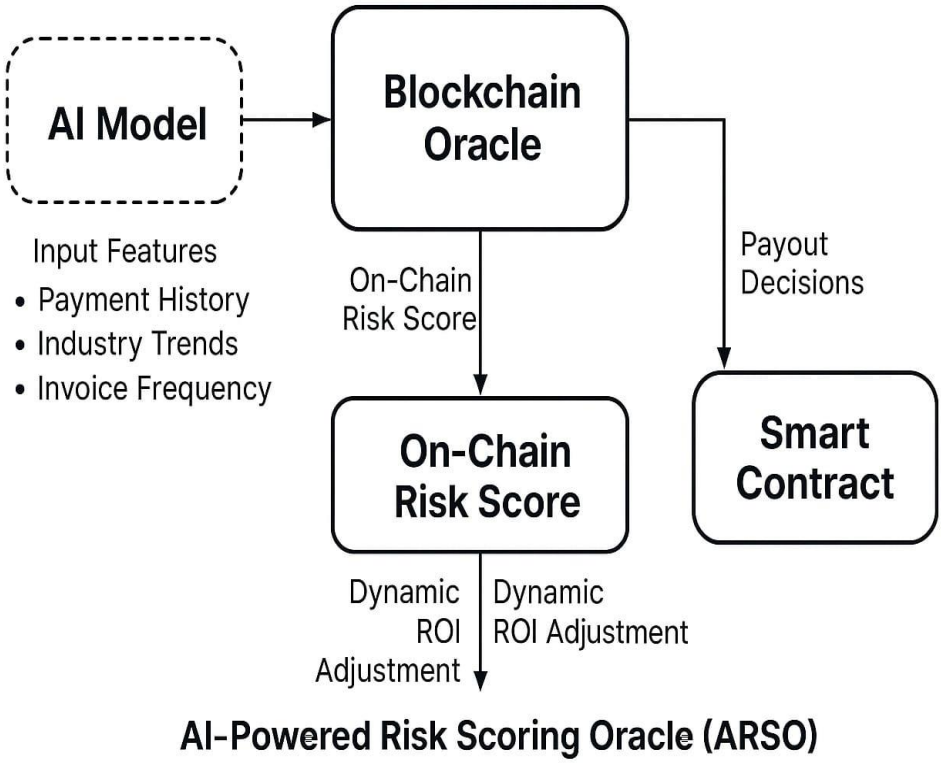


Diagram 2:


AI Model
Blockchain Oracle
Input Features
• Payment History
• Industry Trends
• Invoice Frequency
On-Chain Risk Score
Payout Decisions
On-Chain Risk Score
Smart Contract
Dynamic ROI Adjustment
Dynamic ROI Adjustment
AI-Powered Risk Scoring Oracle (ARSO)