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AI for Bharat Hackathon

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Team Leader Name : SANYA MALIK

Problem Statement : Existing biometric payment systems authenticate faces but lack intelligent multi-layer verification to prevent deepfake, spoofing, and coercion-based financial fraud.

Brief about the Idea:

FaceTrust AI is a next-generation biometric payment intelligence system designed to enhance the security and trust of digital transactions. Unlike conventional face-based authentication systems that rely solely on identity matching, FaceTrust AI integrates multiple AI-driven verification layers to ensure both authenticity and intent before approving a payment.

The system captures a user's facial data and generates encrypted biometric embeddings. It then performs real-time liveness detection to confirm physical presence and applies deepfake detection models to identify synthetic or manipulated media attempts. Additionally, an emotion and behavioral analysis module evaluates micro-expressions and stress indicators to detect potential coercion or abnormal transaction behavior.

All verification outputs are processed through a dynamic risk scoring engine that determines whether to approve the transaction, request secondary authentication, or flag it for review. This multi-layered AI approach transforms biometric authentication from simple identity verification into intelligent, adaptive financial authorization.

FaceTrust AI represents a shift from static biometric systems to cognitive biometric security architecture, designed to address emerging AI-driven fraud threats in the evolving digital payment ecosystem.

Your solution should be able to explain the following:

- How different is it from any of the other existing ideas?
- How will it be able to solve the problem?
- USP of the proposed solution

FaceTrust AI differs from existing face-based payment systems by moving beyond simple identity matching to intelligent, multi-layer verification. Traditional systems authenticate a user's face and directly approve transactions, making them vulnerable to spoofing, deepfakes, and coercion-based fraud. In contrast, FaceTrust AI integrates liveness detection, deepfake analysis, emotional anomaly detection, and a dynamic risk scoring engine before authorizing any payment.

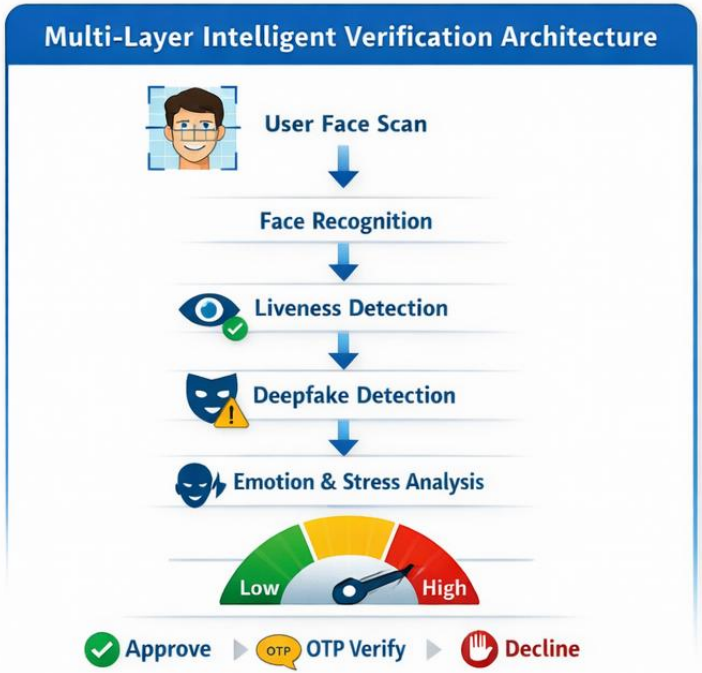
By evaluating not just who the user is, but whether the transaction context is genuine and risk-free, the system ensures higher security and trust. If suspicious signals are detected, it triggers secondary authentication instead of blindly approving the transaction. The unique strength of FaceTrust AI lies in its adaptive, AI-driven authorization architecture that verifies authenticity, intent, and behavioral integrity transforming biometric payments from static authentication into intelligent financial decision-making.

List of features offered by the solution

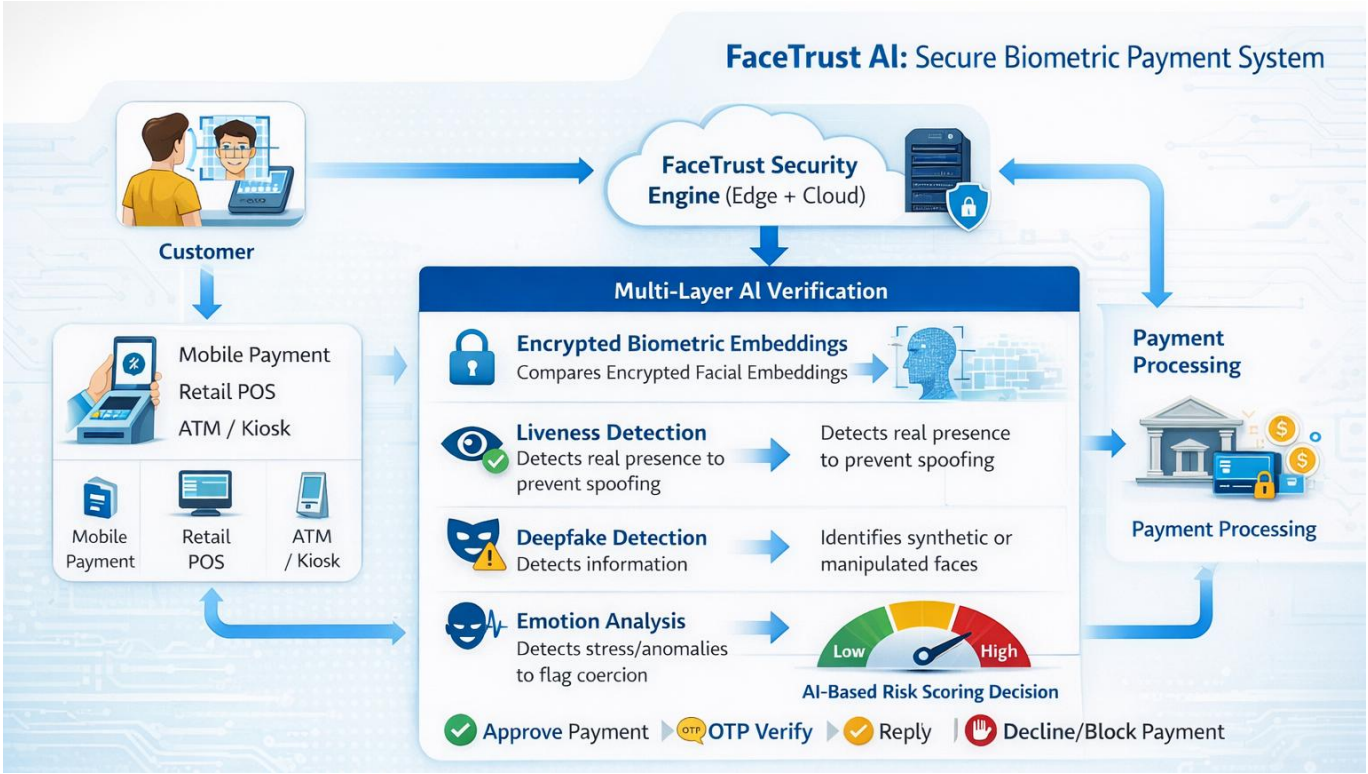
Features Offered by FaceTrust AI

FaceTrust AI provides a multi-layer biometric intelligence system for secure payments.

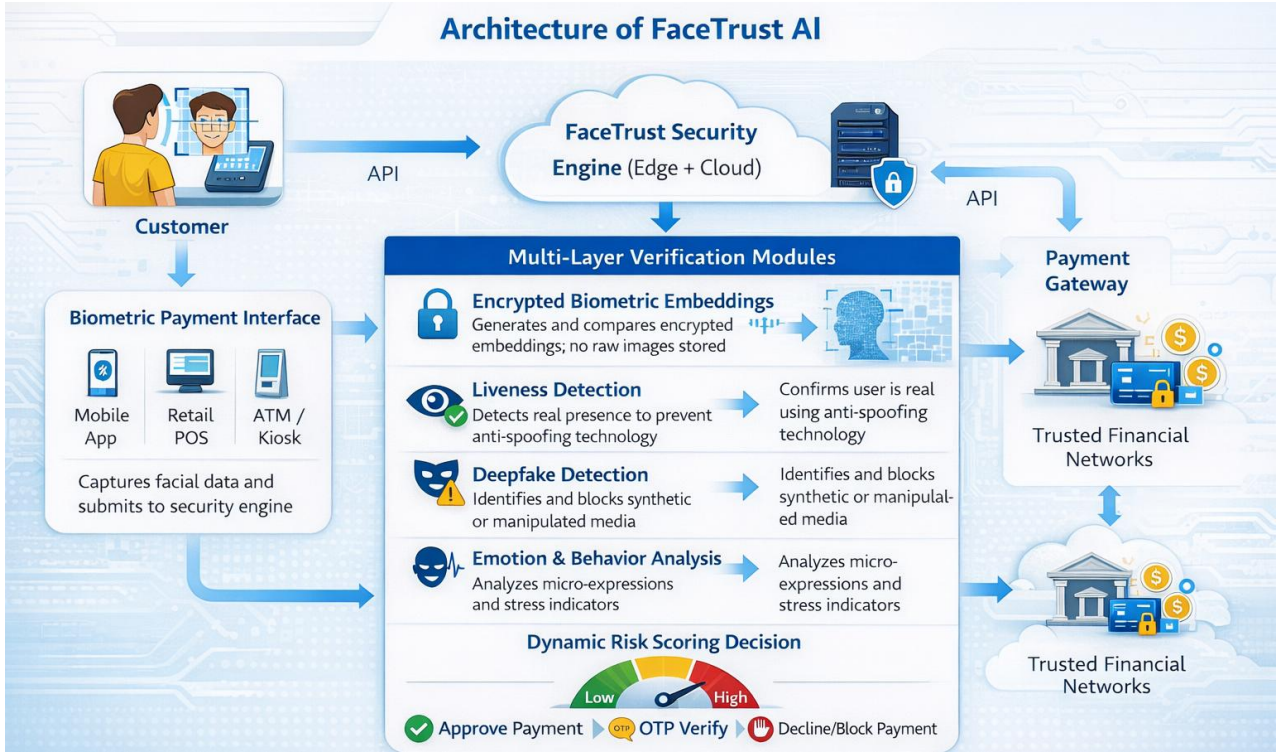
- Encrypted Biometric Embeddings
- Real-Time Liveness Detection
- Deepfake Detection Technology
- Emotion & Behavior Analysis
- Dynamic Risk Scoring Engine



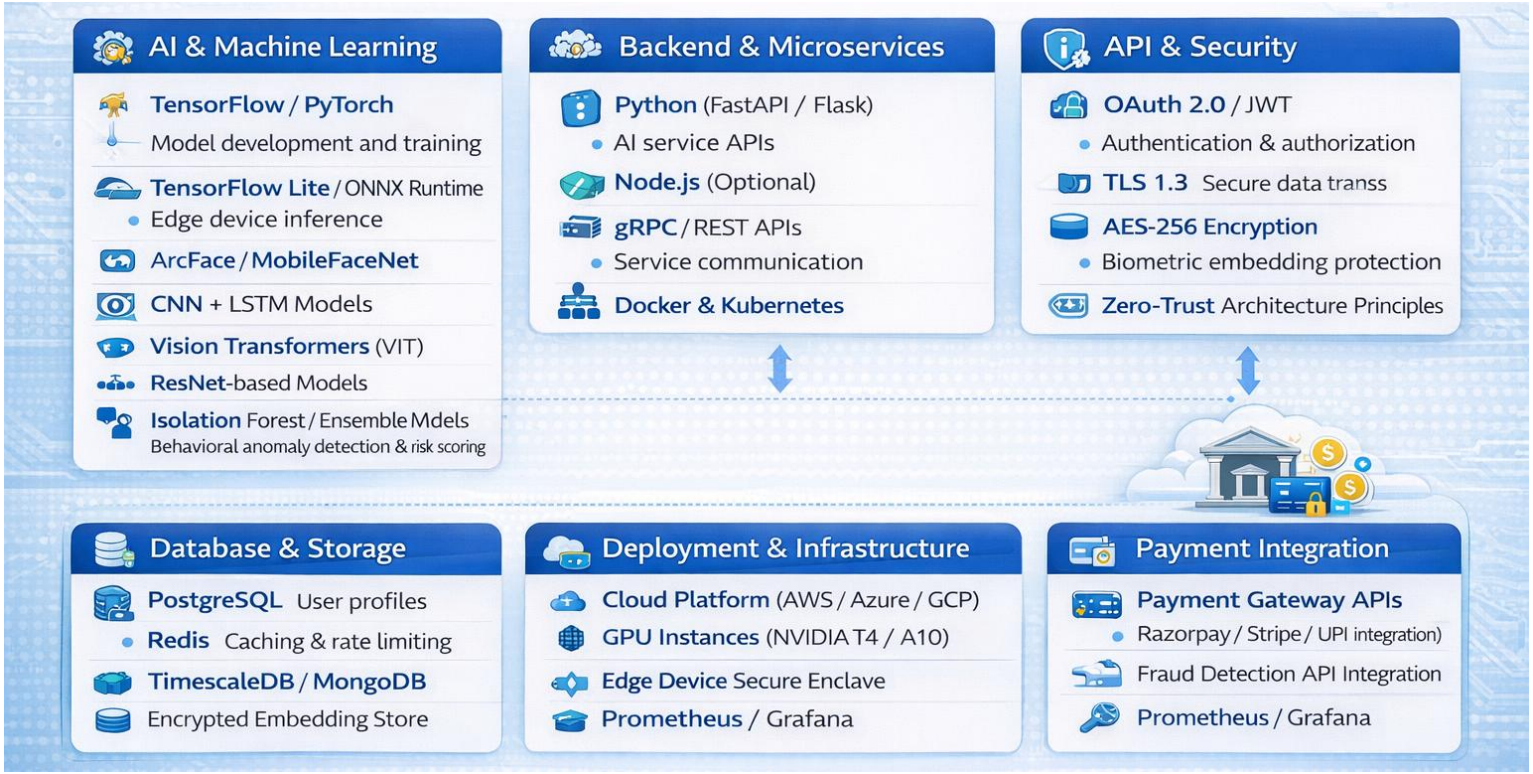
Process flow diagram or Use-case diagram



Architecture diagram of the proposed solution:



Technologies to be used in the solution:



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Thank You