

MillionX Bangladesh

FinTech: AI for Financial Inclusion

MillionX Bangladesh - AI & The Future of Bangladesh • 2025

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Registered

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Description

Brief

Design an AI-driven credit scoring and fraud detection system that enables micro-lending and financial inclusion for unbanked communities.

Challenge Details

Build a predictive model using alternative data (mobile usage, transaction history).

Detect anomalies and potential fraud in digital lending.

Provide dashboards for MFI officers and credit analysts.

Prioritize ethical, explainable AI and data transparency.

Problem Statement

Core Objective

Design a secure, explainable, and inclusive AI credit ecosystem that:

Builds trustworthy credit scores from non-traditional data (mobile usage, transactions, social patterns).

Detects fraud and anomalies in real time for micro-lenders and digital banks.

Offers dashboards and APIs for MFI officers and fintech partners.

Complies with global standards (ISO 27001, GDPR, local BFIU regulations).

Empowers financial inclusion for women, youth, and rural entrepreneurs.

Detailed Requirements

Task

Produce a complete innovation blueprint for an AI credit and fraud analytics platform that delivers equitable access to finance at scale.

Your solution must be:

Disruptive — rethinks the credit infrastructure of developing economies.

Explainable — provides clear rationale for every decision.

Ethical — bias-aware and privacy-preserving.

Scalable — global-ready API architecture serving millions of loans daily.

Design Requirements

1. Vision & Impact

Articulate the moonshot goal: “Financial Identity for Everyone.”

Explain how AI can unlock credit access for 100 M+ unbanked people in Bangladesh and beyond.

Quantify potential GDP impact and poverty reduction benefits.

2. System Architecture

Describe a modular ecosystem with:

Data Ingestion Layer: collect mobile, telecom, merchant, and behavioral data (securely).

AI Core: multi-model ensemble for credit scoring + fraud detection.

Explainability Layer: real-time model interpretation (SHAP/LIME/ELI5).

Decision Dashboard: insights for MFI officers and loan underwriters.

API Gateway: plug-in for fintech apps, wallets, and banks.

Compliance Module: auditable data lineage and regulatory reporting.

3. Intelligence Core

Combine multiple AI capabilities:

LLMs (GPT-5, Claude Code, Gemini 2.5) for textual risk analysis and natural-language credit explanations.

ML Models (XGBoost, AutoGluon, PyTorch Tabular) for predictive risk assessment.

Graph AI to detect fraud rings and social networks of trust.

Reinforcement Learning for dynamic credit-limit adjustment.

RAG + MCP Pipelines for continuous learning from loan repayment and behavioral data.

4. Data Strategy

Use and fuse these sources:

Bangladesh Bank Microfinance Data

IMF Financial Inclusion Dataset

World Bank Global Findex

Synthetic Loan and Transaction Datasets (Kaggle)

Mobile usage + wallet data (bKash, Nagad, Airtel Money)

Define data quality governance, anonymization protocols, and fairness auditing mechanisms.

5. Core Features

AI Credit Score: Dynamic, multi-signal score updated in real time.

Fraud AI: Detects synthetic identities and collusion using graph patterns.

Explainable Dashboard: MFI officers see why each loan is approved/denied.

Fairness Monitor: Tracks bias across gender, region, and income.

Voice Finance Companion: Bangla/English assistant that educates borrowers on credit responsibility.

6. Tools & Tech Stack

AI/ML: XGBoost, AutoGluon, PyTorch Tabular

Explainability: SHAP, LIME, ELI5

Pipelines: FastAPI, Supabase, AWS Lambda (serverless deployment)

Data Ops: Snowflake + LangChain for querying vectorized records

Compliance: ISO 27001, GDPR, BFIU (Bangladesh Financial Intelligence Unit)

7. Innovation Edge (10× Feature)

Invent a world-first feature such as:

“TrustGraph AI” — a graph-based credit identity model that scores borrowers by trust relationships and social capital.

“ExplainChain” — a transparent ledger of AI decisions for auditors and regulators.

“Credit Genome” — a self-evolving profile that learns user behavior while maintaining privacy.

8. Implementation Roadmap

Phase 1 (Bangladesh): Pilot with 3 MFIs and bKash.

Phase 2 (Regional): South Asia expansion with World Bank partnership.

Phase 3 (Global): Integrate with African and LATAM fintech ecosystems.

KPIs: loan approval rate ↑ 30 %, default rate ↓ 40 %, inclusion ↑ 50 %.

9. Ethics & Governance

Comply with digital-finance regulations (Basel III, ISO 27701).

Ensure transparency in AI decisions.

Enable human-in-loop review for edge cases.

Adopt differential privacy and federated learning for sensitive data.

Output Format

Generate your final output in the following structured format:

Vision Statement

System Overview Diagram (text or ASCII schema)

Data Flow Architecture

AI Models and Explainability Stack

Key User Features (MFI officer, borrower, policy analyst)

Technology Stack & APIs

10× Innovation Feature

Implementation Phases (Pilot → Regional → Global)

Ethics & Compliance Framework

Expected Impact (KPIs + SDG alignment)

Registration Period

Registration Start

30 November 2025

Registration End

29 December 2025

Competition Period
Competition Start

30 November 2025

Competition End

31 December 2025

Team Limits

Maximum 2000 teams can register for this topic