*MillionX Bangladesh — National AI Build-a-thon 2026*

# **Million Minds in Action — AI for Bangladesh**

**Organizers:** MillionX Bangladesh in partnership with BASIS Students Forum, Daffodil Group, Varendra University, Metropolitan University, ICT Division, participating universities, and strategic industry partners.

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# **Participants Guide**

*Still in draft and continuously updating*

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## **1. Event Purpose & Vision**

**AI Build-a-thon — National AI Innovation Showcase**

*“Million Minds in Action — AI for Bangladesh”*

The *MillionX Bangladesh National AI Challenge*, titled **AI Build-a-thon**, is where the nation’s brightest innovators transform ideas into impactful, real-world AI solutions. This event showcases the top 20 teams—selected from a nationwide pipeline of 5,000 participants through intensive bootcamps and mentorships—demonstrating working AI prototypes across **five national priority domains: EdTech, AgriTech, HealthTech, E-Commerce, and FinTech.** Each team will present tangible solutions that address Bangladesh’s most pressing challenges—from **personalized learning tutors** and **AI-powered farming ecosystems** to **maternal health companions**, **intelligent supply chains**, and **financial inclusion engines** for the unbanked.

The **AI Build-a-thon** brings together universities, industry, investors, policymakers, and global experts in one collaborative platform to accelerate Bangladesh’s entry into the AI economy. The day includes live demos, mentorship sessions, and investor networking, culminating in the **Young AI Founders Network Awards**, where the top five teams receive seed funding, mentorship, and incubation support to scale their ventures nationally and globally.

For **university leaders**, the event highlights how academia can align AI research with employable innovation; for **government policymakers**, it demonstrates AI’s role in advancing “Bangladesh - a destination for AI resources” agenda; and for **sponsors and corporate partners**, it offers an unparalleled opportunity to co-create solutions, talent, and market ecosystems ready for deployment.

The **AI Build-a-thon** is not just a competition—it is Bangladesh’s bold statement to the world: **that a million young minds, empowered by AI, can engineer the nation’s next era of prosperity, inclusion, and global digital leadership.**

The Build-a-thon serves to:

* Amplify AI innovation and spotlight Bangladesh’s emerging AI and broader tech talent.
* Connect academia, startups, government, investors, and partners to align AI literacy, entrepreneurship, and real-world impact.
* Position Bangladesh on the trajectory to become a **10× AI Nation**, ready for the global digital economy.
* Empower innovators — students and interested professionals — to build deployable AI solutions with societal relevance.
* From a nationwide aspirational pool of 5,000+ participants, identify and highlight the **Top 20 teams**.
* Bridge universities, government bodies, industry and investors under one unified platform.
* Select the **Top 5 Young AI Founders** for seed funding, incubation support, mentorship, and global scale-up opportunities.
* Accelerate Bangladesh’s journey toward inclusive growth and digital transformation by 2030.
* This build-a-thon is **FREE** for everyone to join, however, you are investing your time and effort to understand and prepare for the future with AI.
* You can register here to participate:: <https://buildathon.millionxbangladesh.org/>

## 

## **2. Key Dates & Milestones**

*All times are Bangladesh Standard Time (BST). Subject to final confirmation by organizers.*

| **Date & Time** | **Milestone** | **Description** |
| --- | --- | --- |
| **December 1, 2025** | Event Launch & Registration Open | Public announcement; online registration portal opens nationwide. |
| **December 20, 2025 - 12:00 PM** | Preliminary Submission, ends Decemner 20, 2025 at 12:00 PM Bangladesh Time | Teams submit initial prototypes, demos, or concept documents. Submission link will be available from December 15, 2025. |
| **December 20–30, 2025** | Mentoring & Guidance Window | Mentors provide structured feedback, technical guidance, and refinement support. Mentors will be assigned first come first served. |
| **December 30, 2025 – 12:00 PM** | **Final Round Submission** | **Final projects submitted for evaluation before Top 50 selection.** |
| **January 7, 2026** | Selection of Top 50 | 10 teams per domain (EdTech, AgriTech, HealthTech, E-commerce, FinTech) are shortlisted and published. |
| **January 8, 2026** | Sylhet Workshop – Metropolitan University (for local participants from Sylhet) | Local workshop for Sylhet participants. |
| **January 12, 2026** | Rajshahi Workshop – Varendra University (for local participants from Rajshahi) | Local workshop for Rajshahi participants. |
| **January 16, 2026** | National Build-a-thon at Daffodil Plaza, Dhaka | Full-day in-person national showcase, demo, and award ceremony. |

## **3. Event Day & Regional Workshops: Locations & Schedule**

### **3.1 Mainstage – Dhaka (National Build-a-thon, Jan 16) - Daffodil Plaza**

| **Time** | **Segment** | **Participants / Description** |
| --- | --- | --- |
| 7:00–7:30 AM | Pre-event Setup | Organizers & Volunteers — AV, stage, lighting, network, security setup |
| 7:30–8:30 AM | Registration & Setup | Finalist participants — check-in, badge distribution, table assignment, breakfast |
| 8:30–9:00 AM | Opening Ceremony | All attendees — Welcome remarks, rules, judging overview |
| 9:00–11:00 AM | Technical / Lightning Talks | Domain experts & participants: technical talks, last-minute mentoring |
| 11:00–11:15 AM | “20 Stars” Announcement | Organizers announce the 20 finalist teams for showcase |
| 11:15-11:30 AM | Final Demo Setup |  |
| 11:30–1:00 PM | Showcase Round (Session 1) | 20 teams perform demos (7 min each: demo + Q&A + scoring) across five zones - First 10 |
| 1:00–2:30 PM | Lunch + Prayer + Networking | All — Investors, partners, mentors interact with teams, Jumma prayer & Lunch |
| 2:30–4:00 PM | Showcase Round (Session 2) | 20 teams perform demos (7 min each: demo + Q&A + scoring) across five zones - Second 10 |
| 4:00–4:15 PM | Judges’ Deliberation & Participants Networking | Judges finalize scoring, select **Top 5 Young AI Founders** |
| 4:15–4:30 PM | Awards Ceremony | Announcement of winners, special awards, recognition; Milonayatan 71 |
| 4:30–5:00 PM | Vision Presentation & Closing | Organizers unveil national AI roadmap, upcoming accelerator, certifications, fellowship |

### **3.2 Regional Workshops – Sylhet - Jan 8 & Rajshahi - Jan 12**

These are 4-hour in-person sessions for **local participants**. Schedule template:

| **Time Slot** | **Activity** |
| --- | --- |
| 10:00 AM – 10:30 AM | Registration & Local Check-in |
| 10:30 AM – 11:00 AM | Welcome & Build-a-thon Overview (guidelines, domains, challenge options) |
| 11:00 AM – 12:00 PM | Technical Orientation / Bootcamp (domain-specific) |
| 12:00 PM – 12:15 PM | Break |
| 12:15 PM – 1:30 PM | Mentoring / Q&A / Help with team formation & idea refinement |
| 1:30 PM – 2:00 PM | Submission Guidance & Next Steps (preliminary submission guidelines) |

*Sylhet: Sylhet Metropolitan University - Prof Dr. Choudhury Mukammel Wahid (Jan 8) Leave Dhaka at 1:00 AM (10:00 AM to 2:00 PM); Leave Sylhet at 3:00 PM*

*Rajshahi: Varendra University - Khalid Sakib (Jan 12) Leave Dhaka at 1:00 AM (10:00 AM to 2:00 PM); Leave Rajshahi at 3:00 PM*

*Local participants at these workshops remain eligible for final awards, provided they submit via official portal and attend national Build-a-thon if shortlisted.*

## **4. Domains & Challenge Structure**

Each participating team must select **one domain** and one **challenge prompt**. For each domain: five predefined challenges + one **“Choose Your Own Challenge”** option.

Additionally, teams may submit under a **“Choose Your Own Domain”** path — such entries are **recognized** but **not eligible** for official awards under main judging categories.

| **Domain** | **Core Purpose** | **Challenges** |
| --- | --- | --- |
| **EdTech** | Personalized learning platforms (adaptive tutors, curriculum engines) | 1. Adaptive AI Tutor (Bangla & English curricula)  2. Exam preparation recommender with mock tests  3. Personalized remedial learning for struggling subjects  4. Multimodal learning assistant (text, voice, visuals)  5. Learning analytics dashboard for educators/parents  **6. (Custom)**: User-defined EdTech challenge |
| **AgriTech** | Smart farming: crop monitoring, pest detection, yield optimization | 1. Crop health detection via satellite/drone imagery  2. Pest/disease early-warning system  3. Fertilizer / irrigation recommendation engine  4. Real-time farmer dashboard (weather, soil, yield forecast)  5. Farm-to-market supply chain & price forecasting tool  **6. (Custom)**: User-defined AgriTech challenge |
| **HealthTech** | AI for maternal & community health (nutrition, prenatal care, low-connectivity telehealth) | 1. Maternal health companion (nutrition, pregnancy care)  2. Health worker assistant for community health & patient triage  3. Telehealth + offline mode for rural clinics  4. Nutrition & diet recommender using local food data 5. Health risk early-warning system (e.g. pregnancy complications)  **6. (Custom)**: User-defined HealthTech challenge |
| **E-commerce** | Marketplace optimization for SMEs — demand forecasting, pricing, recommendations | 1. Demand forecasting for SMEs in Bangladesh  2. Dynamic pricing & inventory optimization engine  3. Product recommendation & personalization for SMEs  4. SME business dashboard: sales, trends, analytics  5. Integration with local e-commerce / payment/delivery platforms  **6. (Custom)**: User-defined E-commerce challenge |
| **FinTech** | AI-based credit scoring, fraud detection, financial inclusion | 1. Alternative-data credit scoring for micro-lending  2. Real-time fraud / anomaly detection for digital lenders  3. Dashboard for MFIs and credit analysts  4. Explainable AI for credit decisions  5. Inclusive lending tool for underserved/rural populations  **6. (Custom)**: User-defined FinTech challenge |

### **Domains & Challenge Structure Detail**

Each participating team must select **one domain** and **one challenge** within that domain.

* Each domain contains **5 predefined challenges** (eligible for judging)
* The **6th challenge** in each domain is **“Choose Your Own Challenge”** within that domain (eligible for judging)
* A **6th domain**—**Choose Your Own Domain**—is also available
  + These entries are **recognized and showcased**
  + They are **not eligible for official awards**

#### **Domain 1: EdTech**

**Core Purpose:** Personalized, inclusive, and scalable learning using AI.

| **#** | **Challenge** | **Short Description** |
| --- | --- | --- |
| 1 | Adaptive AI Tutor (Bangla & English) | Build an AI tutor that personalizes lessons, practice, and feedback based on student level, pace, and learning gaps. |
| 2 | Exam Preparation Recommender | Create a system that generates mock tests, predicts readiness, and recommends targeted study plans aligned with curriculum. |
| 3 | Personalized Remedial Learning | Identify weak subjects for students and deliver focused remedial lessons, exercises, and assessments. |
| 4 | Multimodal Learning Assistant | Develop a learning assistant using text, voice, and visuals to improve engagement and accessibility. |
| 5 | Learning Analytics Dashboard | Build analytics for teachers and parents to track progress, identify risks, and improve learning outcomes. |
| 6 | **Custom EdTech Challenge** | Define your own EdTech problem while staying within the education domain. |

#### **Domain 2: AgriTech**

**Core Purpose:** Smart, data-driven agriculture for farmers and food systems.

| **#** | **Challenge** | **Short Description** |
| --- | --- | --- |
| 1 | Crop Health Detection | Use satellite or drone imagery to detect crop stress, disease, or growth anomalies. |
| 2 | Pest & Disease Early Warning | Predict pest or disease outbreaks and generate early alerts and preventive recommendations. |
| 3 | Fertilizer & Irrigation Recommender | Optimize fertilizer and irrigation schedules based on soil, weather, and crop data. |
| 4 | Farmer Decision Dashboard | Provide farmers with real-time insights on weather, soil, yield forecasts, and advisories. |
| 5 | Farm-to-Market Price Forecasting | Forecast crop prices and recommend optimal selling and supply-chain strategies. |
| 6 | **Custom AgriTech Challenge** | Define a new agriculture-focused AI solution within the AgriTech domain. |

#### **Domain 3: HealthTech**

**Core Purpose:** Accessible, safe, and AI-assisted community and maternal healthcare.

| **#** | **Challenge** | **Short Description** |
| --- | --- | --- |
| 1 | Maternal Health Companion | Build an AI assistant for pregnancy care, nutrition guidance, and health reminders. |
| 2 | Health Worker Assistant | Support community health workers with patient triage, summaries, and care recommendations. |
| 3 | Telehealth with Offline Mode | Design a telehealth system that works reliably in low-connectivity rural environments. |
| 4 | Nutrition & Diet Recommender | Recommend personalized diets using local food availability, prices, and health needs. |
| 5 | Health Risk Early Warning | Predict high-risk health events (e.g., pregnancy complications) and trigger alerts. |
| 6 | **Custom HealthTech Challenge** | Define a new AI healthcare challenge within HealthTech boundaries. |

#### **Domain 4: E-Commerce**

**Core Purpose:** AI-powered growth and efficiency for SMEs and digital commerce.

| **#** | **Challenge** | **Short Description** |
| --- | --- | --- |
| 1 | SME Demand Forecasting | Predict product demand to reduce overstock and stockouts for small merchants. |
| 2 | Dynamic Pricing & Inventory | Optimize pricing and inventory levels using demand and market signals. |
| 3 | Product Recommendation Engine | Personalize product recommendations to increase conversions and retention. |
| 4 | SME Business Intelligence Dashboard | Provide actionable analytics on sales, trends, customers, and inventory. |
| 5 | Platform Integration Tool | Build integrations with local e-commerce, payment, and delivery platforms. |
| 6 | **Custom E-Commerce Challenge** | Define a new AI commerce problem within the E-Commerce domain. |

#### **Domain 5: FinTech**

**Core Purpose:** Financial inclusion, risk intelligence, and trust-based digital finance.

| **#** | **Challenge** | **Short Description** |
| --- | --- | --- |
| 1 | Alternative-Data Credit Scoring | Use non-traditional data to assess creditworthiness of underserved users. |
| 2 | Fraud & Anomaly Detection | Detect fraud, identity abuse, or suspicious transactions in real time. |
| 3 | MFI & Credit Analyst Dashboard | Build dashboards for portfolio risk, repayment trends, and inclusion metrics. |
| 4 | Explainable Credit Decisions | Create transparent AI models that explain why credit is approved or denied. |
| 5 | Inclusive Lending Platform | Design end-to-end lending solutions for rural or unbanked populations. |
| 6 | **Custom FinTech Challenge** | Define a new AI finance problem within the FinTech domain. |

#### **Domain 6: Choose Your Own Domain (Not Judged)**

**Core Purpose:** Open innovation beyond predefined categories.

| **#** | **Challenge** | **Short Description** |
| --- | --- | --- |
| 1 | Open Innovation Challenge | Propose a completely new domain and problem (e.g., ClimateTech, GovTech, CultureTech). These projects are **recognized and showcased**, but **not eligible for official awards**. |

## **Important Notes (Applies to All Domains)**

* Each team may submit **only one challenge**.
* Custom challenges must clearly define:
  + Problem statement
  + Target users
  + AI approach
  + Expected impact
* Ethical design, localization (Bangla context), accessibility, and scalability are strongly encouraged.
* Judging applies **only** to predefined domains (1–5) and challenges (1–6) for awards.

## **5. Submission Requirements & Participant Readiness**

All teams must complete **two submissions** through the official portal:

[**https://buildathon.millionxbangladesh.org/**](https://buildathon.millionxbangladesh.org/)

These submissions ensure teams receive mentorship early and are evaluated fairly for awards.

## **5.1 Submission Stages**

### **1. Preliminary Submission (Mandatory)**

**Purpose:**

* Early evaluation
* Mentor assignment and grooming support

### **2. Final Submission (Mandatory)**

**Purpose:**

* Award consideration
* Final judging and ranking

Both submissions follow the **same structure**.

The **Final Submission** must be a **refined, complete, and production-ready version** of the preliminary submission.

## **5.2 Submission Deadlines**

### **Preliminary Submission**

* **December 20, 2025 – 12:00 PM (BST)**

### **Final Submission**

* **December 30, 2025 – 12:00 PM (BST)**

Late submissions will **not** be considered.

## **5.3 Required Submission Components**

For **both Preliminary and Final submissions**, every team must provide the following **three components**:

1. **Google Drive Folder** (Mandatory – Primary review source)
2. **GitHub Repository** (Optional but highly encouraged)
3. **YouTube Demo Link** (Mandatory)

Judges must be able to **open, view, and download all materials without requesting access**.

## **5.4 Open Source Policy (Clear & Binding)**

Open source is a **core objective** of the National AI Build-a-thon.

Teams are **strongly encouraged** to open-source their code using:

* **MIT License**, or
* **Apache License 2.0**

This helps build a strong **open-source builder ecosystem in Bangladesh** and increases global visibility for participants.

### **Important Clarifications**

* **Open-sourcing code is encouraged but not mandatory**
* Teams may choose **not** to publish source code
* In all cases, teams **must clearly demonstrate**:
  + The working product
  + System architecture
  + AI logic and workflows
  + Prompts used
  + End-to-end demo

This information is **required** for judges to evaluate innovation, technical depth, and impact.

**Legal disclaimer:** Teams retain full ownership of their intellectual property. Open-sourcing is voluntary and does not transfer ownership to organizers, sponsors, or partners. All submissions must comply with applicable laws, licensing terms, data privacy, and ethical standards. Organizers are not responsible for IP disputes arising from participant submissions.

## **5.5 Mandatory Naming Convention**

All submissions **must** use the following naming format:

**MXB2026-<Location>-<Team Name>-<Project Name>**

**Example:**

MXB2026-Dhaka-AI Explorers-AI Beyond Waters

**Location:** Dhaka, Sylhet, Rajshahi, or Custom

**Team Name:** Official registered team name

**Project Name:** Name of the AI solution

This naming convention must be used consistently for:

* Google Drive folder
* GitHub repository (if provided)
* YouTube demo title or description

## **5.6 Submission Content Framework (What Goes Where)**

### **A. Google Drive Folder (Mandatory)**

**Purpose:**

The Google Drive folder is the **primary evaluation source**. Judges will rely on this folder to understand your problem, solution, AI process, and impact—regardless of whether code is open-sourced.

**Requirements:**

* Public access: *Anyone with link → Viewer*
* Clean, structured, easy to navigate
* Follows naming convention

**Must Contain:**

1. **Project Overview (PDF or Google Doc)**
   * Problem statement
   * Target users
   * Why the problem matters (local + scalable impact)
2. **Solution Description**
   * What you built
   * Core features
   * User journey / flow
3. **AI & System Architecture**
   * Architecture diagram (image or PDF)
   * Models used
   * RAG / agents / automation (if applicable)
   * Data flow and decision logic
4. **Prompt & Process Documentation (Mandatory)**
   * Prompts used for:
     + Ideation and problem framing
     + Architecture and system design
     + Coding or agent workflows
     + Evaluation and reasoning
   * Explanation of how prompts influenced outputs
5. **Pitch Deck (Mandatory for Final Submission)**
   * Problem
   * Solution
   * Demo flow
   * Architecture
   * Impact and scalability
   * Team overview
6. **Product Roadmap**
   * MVP scope
   * Innovations implemented
   * Next-phase roadmap and scaling plan

**Judges evaluate here:**

Clarity, AI reasoning, explainability, completeness, and real-world relevance.

### **B. GitHub Repository (Optional but Highly Encouraged)**

**Purpose:**

Demonstrates engineering depth, reproducibility, and open-source readiness.

**Guidelines:**

* Public repositories are preferred
* Private repositories are allowed if open-sourcing is not possible
* Code quality matters more than code volume

**If provided, must include:**

* Organized source code, notebooks, or pipelines
* **README (mandatory)** with:
  + Project summary
  + Setup and run instructions
  + Tech stack and dependencies
  + Architecture overview
* License file (MIT or Apache 2.0 if open-sourced)
* Optional deployment files (Dockerfile, scripts)

**Judges evaluate here:**

Engineering maturity, scalability, clarity, and collaboration readiness.

### **C. YouTube Demo Link (Mandatory)**

**Purpose:**

Provides visual proof that the solution works and validates user experience.

**Requirements:**

* Length: **2–4 minutes**
* Public or Unlisted
* Clear screen recording (narration recommended)

**Must demonstrate:**

* The problem being solved
* User interaction
* AI in action (input → processing → output)
* Key features and innovations

**Judges evaluate here:**

Functionality, usability, clarity, and confidence.

## **5.7 Team & Project Information**

*(Editable until Final Submission)*

### **A. Team Details**

Each team must provide:

* **Team name**
* **Team leader** (name, email, phone)
* **Team members** (solo or up to 5 members)
* **Institution name** (university, organization, or independent)
* **Optional:** LinkedIn and/or GitHub profile links

### **B. Project Details**

Each team must clearly define:

* **Selected domain and challenge within the domain** *(or “Choose Your Own Domain / Challenge,” if applicable, and for showcase only, not eligible for award)*
* **Project name**
* **Short project brief** (3–4 sentences)
* **Detailed project description** (1–2 pages), including:
  + Problem statement and relevance
  + Target users
  + Gap or opportunity analysis
  + AI-based solution approach
  + Expected value and differentiation

## **5.8 Participant Readiness Checklist**

Before submitting, ensure:

* Google Drive folder is public and complete
* Naming convention is applied everywhere
* YouTube demo works and is accessible
* AI logic and prompts are clearly explained
* Demo works **online and offline**
* Laptop, charger, and hotspot are ready for demo day

### **Final Reminder**

* **Google Drive submission is mandatory and non-negotiable**
* **YouTube demo is required**
* **GitHub strengthens your evaluation but is optional**
* Clear explanation of **AI process and prompts is essential**, even if code is private

If judges cannot clearly understand **what you built, how AI works, and why it matters**, the project cannot score well—regardless of idea strength.

## **6. Judging Framework — MillionX Bangladesh National AI Build-a-thon**

This section defines **how** projects will be evaluated, the criteria, scoring methodology, demo structure, and guidance for judges. It is designed for transparency, fairness, and alignment with the event’s goals.

### **A. Demo Presentation Format**

Each finalist team’s demonstration follows a **7-minute** structured format. Judges should not allow overruns. This ensures fairness and consistency across teams.

| **Segment** | **Duration** | **Purpose** |
| --- | --- | --- |
| Problem Definition | **20 seconds** | Clarify the urgency and relevance of the problem being addressed — why this matters for Bangladesh (or globally). |
| Solution Description | **40 seconds** | Describe what the AI solution does — features, key functionality, and user flows. |
| Live Demo (input → model → output) | **2 minutes** | Show a working prototype in action: how inputs are transformed by the AI system into outputs/results. |
| Impact Projection | **40 seconds** | Present expected or measured benefits: KPIs, social/economic impact, user reach, potential savings, improvements, etc. |
| Scalability & Vision | **20 seconds** | Outline how the solution can scale — regionally or nationally, infrastructure or deployment strategy, sustainability and long-term vision. |

**Rationale:** This structured demo format aligns with best practices in hackathon judging — it balances clarity, technical demonstration, impact, and future readiness.

### **B. Evaluation Criteria & Scoring Rubric**

Projects will be evaluated across five core criteria. Each criterion has a defined weight, a description of what to assess, and a 0–10 scoring scale. The final score is a weighted sum.

| **Criterion** | **Weight** | **What to Assess** | **Scoring Scale (0–10)** |
| --- | --- | --- | --- |
| **Innovation & Creativity** | **25%** | Novelty, originality, boldness; whether the project applies AI in new or unconventional ways; out-of-the-box thinking; reflects a “10× mindset.” Key questions: Is the idea new or a creative improvement? Does it go beyond standard approaches? | 0–3: Minimal/replicated idea  4–6: Moderate creativity, standard AI usage  7–8: Strong novelty, clever integration  9–10: Disruptive, breakthrough idea with global scalability |
| **Technical Implementation** | **25%** | Quality of execution: system architecture, model design, code quality, data pipelines, reliability, reproducibility, proper use of AI-native tools & resources (e.g., LLMs, RAG/MCP, ML frameworks, automation) | 0–3: Poor execution, concept only  4–6: Basic functionality, limited AI integration  7–8: Solid build, thoughtful engineering  9–10: Advanced architecture, optimized model, seamless user experience |
| **Scalability & Feasibility** | **20%** | Realistic potential for deployment beyond prototype: cost/infrastructure considerations, modular design, replication potential, deployment plan, sustainability | 0–3: Prototype-level only, no scaling plan  4–6: Feasible locally, limited scaling thought  7–8: Clear roadmap for scale, technical readiness  9–10: Fully scalable, globally replicable, sustainable |
| **Social & Economic Impact** | **20%** | Relevance to real needs (in Bangladesh or globally); alignment with social development goals; measurable benefits (outcomes, KPIs); inclusion, equity, accessibility | 0–3: Weak or unclear social relevance  4–6: Localized/small scale impact  7–8: Strong national relevance, measurable benefits  9–10: Transformational impact, high social ROI, inclusive reach |
| **Presentation & Storytelling** | **10%** | Clarity and strength of narrative, communication effectiveness, user interface or demo UI/UX, ability to convey why solution matters and how it works | 0–3: Unclear, poorly presented  4–6: Adequate but some clarity gaps  7–8: Strong, structured storytelling with clarity  9–10: Inspiring, data-driven, compelling, investor-/stakeholder-ready pitch |

**Final Score Calculation:**

| Final Score = Innovation×0.25 + Technical×0.25 + Scalability×0.20 + Impact×0.20 + Presentation×0.10 |
| --- |

### **C. Judging Process & Methodology**

* Each project will be evaluated by **at least three judges** (covering technical, innovation, and impact expertise) to ensure balanced assessment.
* Judges should complete scoring **immediately after each demo** to reduce bias or retrospective influence.
* Use a standard **Judge Score Sheet Template**:
* Organizers should coordinate judge assignments to ensure no team is evaluated by the same judge more than once — improving fairness and reducing bias.
* After all demos, judges may provide **qualitative feedback** highlighting strengths, concerns, and suggestions — helpful for incubation, mentorship, and team learning.

### **D. Additional Guidance & Best Practices for Judges**

To ensure a robust and fair evaluation process, judges and organizers should:

* Align evaluation criteria with the overarching goals of the Build-a-thon (innovation, social value, scalability, real-world deployment) — as recommended by hackathon best practices.
* Evaluate not only technical sophistication, but also real-world relevance, user needs, and potential for meaningful impact (especially for domains like HealthTech, AgriTech, FinTech). This aligns with social-impact–focused hackathon guidance.
* Consider ethical, privacy, accessibility, inclusivity, and localization aspects — especially vital in context of Bangladesh (language, rural connectivity, data privacy).
* Use consistent scoring across teams, and apply the rubric objectively rather than comparing to other teams. Judges should treat each demo independently. This reduces unfair bias. Experienced judges from multi-sector hackathons advise: “evaluate on individual basis rather than relative to others.”
* Provide feedback beyond scores — pointing out what worked well (strengths) and what needs improvement (gaps). Even for non-winning teams, feedback is valuable for growth, iteration, and future opportunities.
* Ensure logistical fairness: each team must have equal demo time, same evaluation conditions, and equal opportunity to use connectivity or fallback if needed.

### **E. Alignment with Event Goals & Rationale**

This judging framework ensures that evaluation:

* Aligns with the Build-a-thon’s mission: **AI with Purpose — from Idea to Nation-building**, balancing technical merit with social impact, scalability, and real-world feasibility.
* Encourages not just prototypes, but **deployable, socially relevant, scalable solutions** — critical given Bangladesh’s national context and ambition for AI-led growth.
* Rewards **bold, creative thinking** (through Innovation criterion), **strong engineering and implementation** (Technical), **practical deployment potential** (Scalability), **social value and impact** (Impact), and **clear communication and narrative** (Presentation).
* Provides transparency and clarity for participants — they know exactly what judges value and how they will be evaluated. This reduces uncertainty and encourages better planning and execution.

### **Additional Guidance for Judges**

1. **Bonus Recognition (Not Weighted but Noted):**
   * **Ethical AI Use:** Responsible data sourcing, bias mitigation, and transparency.
   * **Sustainability:** Long-term operational viability, low carbon footprint, and local empowerment.
   * **Localization:** Effective use of Bangla, cultural context, and accessibility for rural users.
2. **Evaluation Methodology:**
   * Each project is judged by **three evaluators** (technical, innovation, and impact experts).
   * The **final score** is the weighted average of all categories.
   * Judges may provide **qualitative comments** for exceptional creativity, global replication potential, or social inclusion.

**Summary Statement**

This unified judging framework ensures every project is assessed not just on **technical merit**, but on its **transformational potential for Bangladesh and the world** — combining innovation, execution, impact, and storytelling into a single vision:

**“AI with Purpose — From Idea to Nation-building.”**

## **7. Roles & Responsibilities**

### **Participants (Finalist Teams)**

* Bring hardware (laptop + charger), personal hotspot backup, and offline fallback demo .
* Demonstrate working prototype clearly and professionally.
* Follow Demo Structure.
* Documentation and code should be clean and well-prepared.
* Mentors may not intervene during demos.

### **Mentors**

* Provide high-level guidance, technical suggestions, presentation coaching before the event.
* Not allowed to code, debug or assist during demo or judging time.

### **Judges**

* Use the unified scoring rubric.
* Follow strict timing (7-minute demo cycles).
* Maintain impartiality, confidentiality, and professionalism.

### **Volunteers**

* Handle registration, timekeeping, zone coordination, crowd control, media, VIP logistics.
* Ensure no interference with demos or judging.

### **Organizers**

* Oversee all logistics: venue, AV & network, safety, scheduling, stakeholder coordination, risk management

## **8. Contingency & Backup Protocols**

| **Scenario** | **Preparedness / Requirement** |
| --- | --- |
| **Internet failure** | Teams must provide offline fallback demos; personal hotspots recommended for backup. Judges will continue evaluation offline. |
| **Device failure** | Teams should back up code/data; participants should have backup laptops. Save data in the cloud |

## **9. Post-Event Roadmap & Long-Term Vision**

**From Build-a-thon to the AI Talent Hub of Bangladesh**

The National AI Build-a-thon is not an endpoint—it is the **starting point of a long-term national ecosystem** designed to turn proven skills into real opportunities and position Bangladesh as a **global hub for AI talent, teams, and solutions**.

### **9.1 Destination Bangladesh: AI Talent Hub (2026)**

Following the Build-a-thon, all validated outputs—**individual profiles, team profiles, project details, and demo videos**—will feed into the **AI Talent Connect Portal**, branded as:

**“Destination Bangladesh: AI Talent Hub”**

This platform will function as a **national AI talent marketplace**, enabling:

* **Individual profiles** showcasing verified AI skills, tools, and real project contributions
* **Team profiles** highlighting end-to-end delivery capabilities and readiness for global work
* **Project pages** demonstrating practical AI solutions, architectures, and working demos
* **Skill-based discovery and matchmaking** for employers, startups, governments, investors, incubators, and global partners

The portal serves as:

* A **national registry of AI and tech talent**
* A **proof-of-work–based hiring platform** (not resume-driven)
* A global entry point for organizations looking to **hire Bangladeshi AI talent or teams**

This transforms Build-a-thon participation into **long-term visibility, employability, and global opportunity**.

### **9.2 AI Launchpad Accelerator (February 2026)**

The **Top 5 teams** from the National Build-a-thon will be invited into the **AI Launchpad Accelerator**, receiving:

* Structured incubation support
* Technical and product mentorship
* Go-to-market and business guidance
* Pilot and partnership opportunities

The goal is to convert the strongest Build-a-thon projects into **deployable startups and scalable AI solutions**.

### **9.3 AI Certification Pilots (April 2026)**

To strengthen credibility and standardization, **AI certification programs** will be piloted in selected universities and institutions, aligned with:

* Industry-relevant AI skills
* Hands-on, project-based evaluation
* Global best practices in AI engineering and product development

These certifications will complement the **AI Talent Hub profiles**, reinforcing trust for global employers.

### **9.4 MillionX Fellowship 2026**

The **MillionX Fellowship** will identify and support the **Top 100 AI and tech talents nationwide**, offering:

* Advanced mentorship
* Leadership development
* Exposure to global AI ecosystems
* Opportunities in research, startups, and policy-aligned innovation

This fellowship creates a **national leadership pipeline** for AI.

### **9.5 Annual National AI Report (December 2026)**

An annual, publicly released **National AI Report** will track and publish:

* AI skill development trends
* Startup formation and growth
* Solution deployment across sectors
* Employment and hiring outcomes
* Social and economic impact of AI initiatives
* Progress toward Bangladesh’s national AI goals

This report ensures **transparency, accountability, and continuous improvement** of the ecosystem.

### **The Big Picture**

Together, these initiatives ensure that the Build-a-thon delivers lasting value:

**Competition → Capability → Visibility → Hiring → Scale**

This is how Bangladesh moves from being a user of global technologies to becoming a **trusted global source of AI builders, contributors, and teams**.

## **10. Submission & Participant Readiness Checklist**

* Register and form a team, solo or 5 members.
* Select domain and challenge.
* Build prototype; prepare documentation and demo environment.
* Ensure hardware (charged laptop, charger) and backup internet (hotspot).
* Create offline fallback demo.
* Submit on time via official portal (preliminary and final submissions).
* Finalist teams: prepare to attend national Build-a-thon in Dhaka (or regional workshop if local).
* If codes are opensources, must upload all codes in GitHub, does not have to be public, however, by choice it can be opensourced
* Must provide link for the working demo during the judging time in YouTube
* For the Regional Teams (Rajshahi & Sylhet) must provide 4 minutes video to be considered for the final judgement

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# **11. Frequently Asked Questions (FAQ)**

## **About the National AI Build-a-thon**

### **What is the National AI Build-a-thon?**

The National AI Build-a-thon is a large-scale, AI-first innovation competition where teams design, build, and demonstrate working prototypes that address real-world challenges relevant to Bangladesh and beyond.

### **Is the event online or in-person?**

The Build-a-thon follows a **hybrid model**. Teams may collaborate remotely. Final demos and evaluations are conducted digitally unless shortlisted teams are invited to attend in-person sessions (regional workshops or the national showcase).

## **Eligibility & Participation**

### **Who is eligible to participate?**

The Build-a-thon is **inclusive**:

* All currently enrolled university students in Bangladesh (any year, any discipline)
* Inter-university teams are allowed
* Non-students, early-career professionals, and independent innovators may also participate

### **Can individuals participate?**

You may join individually during early ideation, but **final submissions must be made by a team** that meets the required team size.

## **Teams & Collaboration**

### **What is the required team size?**

Team size is recommended to be 5 members, however, a solo member can also participate. This rule applies to both preliminary and final submissions.

### **Can team members come from different universities or locations?**

Yes. Cross-institutional and geographically distributed teams are encouraged.

### **Can I change my team after registering?**

Yes. Team changes are allowed **until the submission deadline**, as long as the final team meets eligibility and size requirements.

## **Domains & Challenges**

### **How many domains or challenges can a team submit to?**

Each team must select:

* **One domain**
* **One challenge prompt** (predefined or custom within that domain)

Multiple submissions from the same team are **not allowed**.

### **Can I propose a problem outside the five official domains?**

Yes. Teams may choose the **“Choose Your Own Domain”** option.

* These submissions are **recognized**
* They are **not eligible for main awards** under the official judging categories

## **Technology & Tools**

### **Are there restrictions on programming languages, AI frameworks, or tools?**

No. Teams may use **any programming language, framework, library, cloud service, or on-device AI tool**, provided:

* Licensing terms are respected
* Data ethics and privacy standards are followed

### **Can we use AI-assisted development tools?**

Yes—and it is **strongly encouraged**.

Examples include (but are not limited to):

* Cursor, Antigravity, Kiro, Claude Code, GPT/Codex, Gemini
* RAG pipelines, MCP, LangChain
* n8n, Supabase, Firebase, Docker, Ollama

Use of modern AI-native tooling will be **positively considered during technical evaluation**, provided teams can clearly explain what they built.

### **Is prior AI experience required?**

No. The Build-a-thon supports both beginners and advanced participants.

However, teams are expected to **gain practical AI proficiency during the process** and demonstrate understanding of their solution.

## **Registration & Communication**

### **How do I register?**

Registration must be completed through the official portal:

[**https://buildathon.millionxbangladesh.org**](https://buildathon.millionxbangladesh.org)

Only registered teams are considered official participants.

### **Does joining the WhatsApp group mean I am registered?**

No. The WhatsApp group is **only for communication**. Registration is confirmed **only** after completing the official registration form.

### **Where will official updates be shared?**

All official announcements are shared through:

* <https://buildathon.millionxbangladesh.org>
* The official WhatsApp participant group
* Organizer-shared links

Participants are responsible for monitoring these channels.

## **Submissions**

### **What do teams need to submit?**

A complete submission includes:

* Project description and problem statement
* Solution architecture and explanation
* Source code (GitHub or equivalent, optional)
* Demo video or live demo link
* Presentation and supporting documentation

### **Where do we submit our work?**

Submissions are made through the **official submission portal (**[**https://buildathon.millionxbangladesh.org**](https://buildathon.millionxbangladesh.org)**)**. Teams typically submit:

* A **public Google Drive folder**
* A **GitHub repository (optional)**
* A **YouTube or demo link (final submission)**

Judges must be able to access all materials **without requesting permission**.

### **Does the GitHub repository have to be public?**

GitHub repositories are optional **do not have to be open-source**, but if provided, then:

* Judges must have access during evaluation
* Teams may choose to open-source their work voluntarily

## **Evaluation & Judging**

### **Will there be multiple evaluation rounds?**

Yes. The Build-a-thon includes:

* A **preliminary screening**
* A **final evaluation or demo round**

Only shortlisted teams advance to later stages.

### **How are projects evaluated?**

Projects are evaluated based on:

* Innovation and creativity
* Technical implementation
* Scalability and feasibility
* Social and economic impact
* Clarity of presentation and storytelling

## **Demo-Day Contingencies**

### **What if the internet fails during the demo?**

Teams must prepare an **offline fallback demo**.

A personal hotspot is strongly recommended.

Judges will continue evaluation using the offline demo if needed.

### **What if a laptop or device fails?**

Teams are responsible for backing up code and data.

* If available, organizers may provide a backup device
* Otherwise, evaluation proceeds using available resources

## **Intellectual Property (IP)**

### **Who owns the intellectual property of the solution?**

**Teams retain full ownership of their intellectual property.**

By participating, teams grant organizers a **non-exclusive, royalty-free license** to:

* Showcase demos
* Share videos and project descriptions
* Use materials for promotional or educational purposes

No ownership transfer is required.

## **Support & Resources**

### **Will learning resources or guidance be provided?**

Yes. Organizers will share:

* Instructional videos
* Development guides
* Tool recommendations
* Best-practice references

These are shared through official channels throughout the event.

### **What if I face technical or access issues?**

Report issues clearly through:

* The designated support channel
* Official contact links shared by the organizers

## **Participant Expectations**

### **What is expected from participants?**

Participants are expected to:

* Act professionally and collaborate respectfully
* Follow deadlines and submission rules
* Build authentic, explainable solutions
* Maintain academic and professional integrity

## **Final Note**

The National AI Build-a-thon is not just a competition—it is a platform to **learn, build, and lead** in the AI era. It’s focus is to learn the latest technologies, build hands-on, and lead global AI talents, and making Bangladesh a destination for AI talents.

Build responsibly.

Explain clearly.

Design for impact.

## **12. Closing Statement**

The MillionX Build-a-thon is a national call to innovate, collaborate, and build solutions that matter.

Whether you are a university student, a professional, or an independent innovator — your ideas, energy, and aspirations can help shape a better Bangladesh. Use this platform to build meaningful AI-driven solutions, scale them responsibly, and contribute to national growth and development.

We await your bold ideas, rigorous execution, and collective ambition.

This event is your moment to lead Bangladesh into the AI future.

Your creativity, discipline, and courage will shape the country’s innovation ecosystem for decades.

### 

### **Build boldly. Present fearlessly. Lead Bangladesh into the AI decade.**

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# **References**

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## **Skills & Tools**

* **Foundation:** Spec driven development, context engineering, Prompt Engineering, Transformers, models, ML/DL/RL/tuning, tokens, contexts
* **LLMs:** ChatGPT + Codex, Gemini + Antigravity, Calude + Calude Code + Kiro
* **Local LLMs/SLMs:** Ollama, Hugging Face for quantized LLMs/SLMs to run locally
* **IDEs:** Cursor, VSCode, Kiro, Antigravity, WARP, Windsurf
* **Data:** RAG, Vector DB (PG Vector, Pinecone), GraphRAG (Neo4J),
* **Protocol:** MCP + A2A + Strands protocols for multi-agent systems.
* **Web Scraping:** Firecrawl, Beautiful Soup, Crawl4AI, Selenium for building data-driven products.
* **APIs:** FastAPI, Postman building data-driven products.
* **Workflow Automation:** n8n, crewAI, [make.com](http://make.com), zapier for workflow automation.
* **Containers:** Docker/Kubernetes for local experimentation and cost optimization.

## **Fast-start “learning path” (8–10 hours)**

* **LLM fundamentals (2h):** Karpathy tokenizer + OpenAI dev course.
* **RAG + MCP (2h):** LangChain RAG + MCP workshop.
* **AI coding assistants (2h):** Cursor + Claude Code intros.
* **Automation & backend (2h):** n8n channel + Supabase course.
* **Local labs (2h):** Ollama quickstart + Docker “Get started.”

# **YouTube links + Official References**

All links are verified and point to reputable sources (official channels, leading educators, or docs). For easy copy/paste, URLs are shown in code blocks. Citations are included.

## **1) Foundation: LLMs, models, ML/DL/RL, tokens, basics**

* **Tokenizer & LLM internals (Karpathy)**
  + <https://www.youtube.com/watch?v=zduSFxRajkE> — Let’s build the GPT tokenizer.
  + <https://www.youtube.com/@AndrejKarpathy/videos> — Channel (LLMs deep dives).
* **Full LLM courses (freeCodeCamp / DeepLearning.AI)**
  + <https://www.youtube.com/watch?v=p3sij8QzONQ> — LLMs from scratch (PyTorch).
  + <https://www.youtube.com/watch?v=UU1WVnMk4E8> — Build an LLM from scratch.
  + <https://www.youtube.com/watch?v=dFHEgsJTmDI> — RAG course intro (DeepLearning.AI).
* **OpenAI dev course (LLM development)**
  + <https://www.youtube.com/watch?v=xZDB1naRUlk> — Development with LLMs.

## **2) Cursor / Claude Code / Codex (AI-assisted coding)**

* **Cursor (AI code editor)**
  + <https://www.youtube.com/watch?v=3289vhOUdKA> — Cursor AI Tutorial (2025).
  + <https://www.youtube.com/watch?v=CqkZ-ybl3lg> — Get Started with Cursor.
* **Claude Code (Anthropic)**
  + <https://www.youtube.com/watch?v=AJpK3YTTKZ4> — Introducing Claude Code.
  + <https://www.youtube.com/watch?v=6eBSHbLKuN0> — Mastering Claude Code (30 min).
  + Context on recent launches: Tech press coverage.
* **Codex (historical/skills transfer)**
  + <https://www.youtube.com/playlist?list=PL4cUxeGkcC9iDBeA8IyR1IE1kl4w5IDEG> — Codex tutorial playlist.
  + <https://www.youtube.com/playlist?list=PLOXw6I10VTv-IwPfAPgK9F2YQOcgr1N8s> — OpenAI “Introducing Codex” (playlist).

## **3) RAG + MCP (retrieval-augmented generation; Model Context Protocol)**

* **RAG — official & deep tutorials**
  + <https://python.langchain.com/docs/tutorials/rag/> — LangChain RAG tutorial (Part 1).
  + <https://js.langchain.com/docs/concepts/rag/> — RAG concepts overview.
  + <https://www.youtube.com/watch?v=sVcwVQRHIc8> — Learn RAG from scratch (LangChain engineer).
* **MCP — spec + workshops**
  + <https://modelcontextprotocol.io/specification/2025-06-18> — Official MCP spec.
  + <https://github.com/modelcontextprotocol/modelcontextprotocol> — MCP spec repo.
  + <https://www.youtube.com/watch?v=kQmXtrmQ5Zg> — “Building Agents with MCP” (full workshop).
  + Background coverage on MCP’s launch & purpose.

## **4) Web Scraping / APIs (data-driven products)**

* **Firecrawl (web data for AI)**
  + <https://docs.firecrawl.dev/introduction> — Official docs.
  + <https://www.firecrawl.dev/> — Product overview.
  + <https://www.youtube.com/watch?v=0HrF1C3e47s> — Add web scraping to any app (Firecrawl SDK).
  + <https://www.youtube.com/watch?v=7GeFt8suV8E> — Master web scraping with Firecrawl.
* **General API/RAG helpers**
  + <https://python.langchain.com/docs/tutorials/rag/> — Using loaders/connectors in RAG.

## **5) n8n + Supabase + automation/integration**

* **n8n (automation)**
  + <https://docs.n8n.io/> — Official docs.
  + <https://www.youtube.com/c/n8n-io> — Official YouTube channel.
  + <https://community.n8n.io/c/getting-started-with-n8n/docs-and-tutorials/6> — Docs & tutorials hub.
* **Supabase (Postgres backend, auth, vector, realtime)**
  + <https://supabase.com/docs> — Official docs.
  + <https://www.youtube.com/c/supabase> — Official channel.
  + <https://www.youtube.com/watch?v=kyphLGnSz6Q> — Supabase full course (2025).

## **6) Ollama + Dockerized Labs (local models; cost optimization)**

* **Ollama (run open-source LLMs locally)**
  + <https://docs.ollama.com/> — Official docs.
  + <https://ollama.com/> — Product page & downloads.
  + <https://www.youtube.com/watch?v=90ozfdsQOKo> — Getting started on Ollama.
  + <https://www.youtube.com/watch?v=UtSSMs6ObqY> — Run LLMs locally (15-min).
* **Docker (containerized labs for local stacks)**
  + <https://docs.docker.com/get-started/> — Official “Get started”.
  + <https://www.docker.com/get-started/> — Official onboarding page.
  + <https://www.youtube.com/watch?v=3c-iBn73dDE> — Full Docker course (3h).
  + <https://www.youtube.com/playlist?list=PLy7NrYWoggjzfAHlUusx2wuDwfCrmJYcs> — TechWorld with Nana playlist.
  + *(If laptops lack dedicated GPUs, see this explainer comparing local LLM runners.)*

## **Sponsorship & Partnership Targets (If anyone is interested)**

* **Government Bodies:** ICT Division, UGC, TMED, MoE, NSDA.
* **Industry Partners:** BASIS, eCAB, BCS, bKash, Robi, Grameenphone, Shohoz, Pathao, Walton, and others
* **Universities:** BUET, BRAC, AIUB, NSU, Daffodil, IUB, Dhaka University, and others.
* **Global Partners:** AWS, IBM, Google, OpenAI, NVIDIA, and CLP .

# **Open Source as a Core Objective of the Build-a-thon**

### **Why Open Source Matters for This Build-a-thon**

One of the **core objectives** of the MillionX Bangladesh National AI Build-a-thon is to **create a strong generation of open-source builders and contributors**.

Open source is not just about sharing code.

It is about **learning in public, collaborating at scale, and building technology that outlives a single event**.

The global AI ecosystem—from operating systems to cloud platforms, from machine learning libraries to developer tools—has been built primarily on **open-source foundations**. By encouraging open source, this Build-a-thon aims to position **Bangladesh as a serious contributor to the global AI and software ecosystem**, not just a consumer.

## **A Brief History: How Open Source Changed the Tech World**

Open source has shaped nearly every major technology platform in use today:

* **Linux** powers most servers, cloud infrastructure, Android devices, and supercomputers
* **Python** became the dominant language for AI and data science through open collaboration
* **Apache**, **MySQL**, and **PostgreSQL** enabled the modern web and data platforms
* **TensorFlow**, **PyTorch**, **Kubernetes**, **Docker**, **Hugging Face**, and **LangChain** accelerated AI and cloud-native development
* Even today’s AI breakthroughs are built on **open research papers, shared models, and community-driven tooling**

Open source turned software from **closed, expensive, and centralized** into **accessible, global, and innovation-driven**.

Countries that embraced open source early built **strong developer ecosystems, startups, and global credibility**. This Build-a-thon is a step toward creating the same momentum in Bangladesh.

## **Why We Encourage Open Sourcing in This Build-a-thon**

While **open sourcing your code is not mandatory**, it is **strongly encouraged**.

### **Benefits for Participants**

* Builds a **public portfolio** visible to employers, investors, and global collaborators
* Accelerates learning through **peer review and community feedback**
* Improves code quality, documentation, and architectural thinking
* Signals **engineering maturity and professional credibility**
* Creates long-term impact beyond the competition

### **Benefits for Bangladesh**

* Develops a culture of **builders, not just users**
* Positions Bangladeshi developers as **global contributors**
* Enables reuse, localization, and improvement of solutions across communities
* Strengthens trust with universities, government, and industry partners

## **Recommended Open Source Licenses**

To make open sourcing simple and safe, we recommend using one of the following **permissive licenses**.

### **MIT License vs Apache License 2.0 (Simple Comparison)**

| **Aspect** | **MIT License** | **Apache License 2.0** |
| --- | --- | --- |
| Simplicity | Very simple and short | More detailed and structured |
| Commercial Use | Allowed | Allowed |
| Modification | Allowed | Allowed |
| Redistribution | Allowed | Allowed |
| Attribution Required | Yes | Yes |
| Patent Protection | ❌ No explicit protection | ✅ Explicit patent grant |
| Best For | Hackathons, learning projects, rapid adoption | Enterprise-grade, long-term projects |

### **Which Should You Choose?**

* **MIT License** → Best for most Build-a-thon projects
  + Simple, fast, widely used
  + Ideal for learning, sharing, and rapid adoption
* **Apache License 2.0** → Best if your project may evolve into an enterprise or startup product
  + Includes patent protection
  + Preferred by many large organizations

Both licenses allow your project to be:

* Used commercially
* Forked and extended
* Integrated into larger systems

## **Important Clarification on IP and Open Source**

* **You always retain ownership of your intellectual property**
* Open sourcing does **not** mean giving up your idea or future business
* Many successful startups began as open-source projects (e.g., Red Hat, GitLab, MongoDB, Docker)

Open source is often a **strategic advantage**, not a limitation.

## **Our Call to Action: Build Open. Build Together.**

This Build-a-thon is more than a competition.

It is an opportunity to **ignite an open-source movement in Bangladesh**.

We encourage participants to:

* Publish clean, well-documented repositories on GitHub
* Use MIT or Apache 2.0 licenses
* Write READMEs that explain the *problem, solution, and impact*
* Invite collaboration, feedback, and reuse

Imagine hundreds of AI projects from Bangladesh:

* Forked globally
* Referenced in research and products
* Used in classrooms, startups, and public services

That is how **nations build technology leadership**.

Let this Build-a-thon be remembered as the moment when **Bangladesh stepped forward—not just as AI users, but as open-source AI builders for the world**.

**Build openly.**

**Collaborate globally.**

**Leave a legacy.**

# **Details of Five Problem Domains**

**Five Focused Domains**

The *MillionX Bangladesh National AI Challenge* reimagines Bangladesh as a global model for inclusive innovation by uniting five transformative domains—**EdTech, AgriTech, HealthTech, E-Commerce, and FinTech**—each designed to solve national challenges with globally scalable AI solutions. From giving every student a **personalized AI tutor**, to turning every farm into a **data-driven ecosystem**, providing every mother with a **digital health companion**, empowering SMEs through an **intelligent commerce optimizer**, and enabling the unbanked to access credit via an **AI-powered financial inclusion network**, these initiatives together form an interconnected ecosystem of education, economy, and equity. They aim not merely to adopt AI but to **amplify human potential**, positioning Bangladesh as the world’s first nation to transform its youth into one million innovators capable of solving a billion global problems.

Below is a comprehensive table for the 5 core domains of the MillionX Bangladesh National AI Build-a-thon — each with **5 predefined challenges + 1 “Choose-Your-Own” slot**, expanded with core idea, objectives, sample data sources, tech stack suggestions, and judging-focus add-ons. Teams may pick one challenge per domain (or propose custom), and use this as a blueprint for project planning and submission.

**Challenge Catalogue: Domains & Challenge Details**

| **Domain** | **Brief (Core Idea)** | **Challenge Prompt** | **Challenge Details (Objectives & Outputs)** | **MetaPrompt Theme** | **Suggested Data Sources** | **Key Tools & Technologies** | **Judging Focus (Add-ons)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **EdTech** | Personalized AI-powered learning tutor & education support for Bangladeshi students | **1. Adaptive AI Tutor (Bangla & English curricula)** | Build an AI tutor that adapts to each learner’s pace, identifies weak topics (e.g. Bangla, Math, English, Science), offers customized lessons, practice exercises, and assessments. Output: individualized learning plans, practice modules, progress tracking dashboard. | “AI Tutor Platform for Personalized Education” | NCTB Open Curriculum; public domain curricula; open educational datasets; Khan Academy API; open datasets on student performance | LLMs (e.g. GPT-5 / Claude Code / Llama / Gemini), RAG + retrieval stack, personalization engine, Supabase or similar backend, front-end UI (web/mobile) | Personalization relevance; support for Bangla and English; engagement & usability; accessibility (low-bandwidth/offline), scalability across schools |
|  |  | **2. Exam-Preparation Recommender with Mock Tests** | Build a system that generates mock exams and practice tests tailored to the syllabus, difficulty-level, and student history. Output: dynamic test generator, result analytics, suggested study paths. | “Smart Exam Prep & Test Generator” | Past exam papers (public), NCTB syllabus, open question banks, educational resources | NLP / LLM for question generation, test engine backend, analytics dashboard, front-end UI | Quality of generated questions, alignment with curriculum, reliability of scoring & recommendations, adaptability for different student profiles |
|  |  | **3. Personalized Remedial Learning for Struggling Subjects** | Identify weak subjects for individual students and deliver targeted remedial modules — lessons, exercises, quizzes. Output: remedial learning module, progress tracking, recommendation engine. | “Remedial Learning Companion” | Student performance data (anonymized), curriculum data, practice datasets, open educational content | ML models for performance tracking, adaptive recommendation algorithms, UI/back-end stack | Accuracy of remediation, improvement tracking, adaptability, accessibility (especially for rural or low-resource students) |
|  |  | **4. Multimodal Learning Assistant (text, voice, visuals)** | Build a tutor that supports multimodal inputs/outputs: text, speech (Bangla/English), visuals (images, diagrams), interactive content for richer learning experience. Output: multimodal lesson modules, voice-enabled interactions, accessible UI. | “Multimodal AI Tutor for Inclusive Education” | Curriculum datasets, open educational videos, textbooks/scanned images, public domain educational media | LLM + multimodal models (vision, speech-to-text, text-to-speech), front-end mobile/web, possibly hybrid offline-capable design | Inclusivity (low-literacy, rural access), usability across mediums, performance of multimodal interactions, user experience design |
|  |  | **5. Learning Analytics Dashboard for Educators & Parents** | Build analytics tools to monitor student learning progress, identify trends/weaknesses, and provide recommendations for teachers and parents. Output: dashboard, analytics reports, alert/recommendation system. | “Edu Analytics & Insights Platform” | Aggregated anonymized student performance data, curricula metadata, attendance & learning logs (if available) | Data pipeline (backend), analytics engine, visualization frontend (dashboard), database storage | Clarity & usefulness of analytics, data privacy & ethics, actionable insights, scalability to many students / schools / regions |
|  |  | **6. (Custom)** — User-defined EdTech Challenge | Custom problem statement in EdTech domain, defined by team. Objectives/outputs will be as per team’s proposal. | Team-defined (must stay within EdTech domain) | Any relevant educational datasets — public curricula, open educational resources, open data | Any applicable AI/ML stack or tools as needed | Innovation, relevance, feasibility, scalability, educational impact, alignment with national needs |
| **AgriTech** | AI-driven smart agriculture ecosystem — crop monitoring, yield optimization, pest/disease detection, resource recommendation for smallholder farmers | **1. Crop Health Detection via Satellite/Drone Imagery** | Use remote-sensing (satellite / drone imagery) to detect crop health, stress, disease, or growth patterns. Output: field-level health maps, alerts to farmers/cooperatives. | “Smart Crop Health Monitoring AI” | Public satellite imagery (e.g. Sentinel, Landsat), soil/climate data (open weather, SoilGrids), crop datasets (local crop types) | Computer vision + geospatial ML, remote sensing pipelines, cloud/edge processing, dashboard or mobile interface | Accuracy & reliability of detection, interpretability, local crop adaptation (rice, jute, mango, etc.), usability for smallholder farmers (low bandwidth, local languages) |
|  |  | **2. Pest / Disease Early-Warning System** | Predict pest or disease outbreaks before visible damage using environmental, climate, crop, and history data. Output: risk predictions, alerts, preventive recommendations. | “AI Pest & Disease Early-Warning for Farmers” | Historic crop yield and pest/disease outbreak records (if available), climate/weather data, soil data, satellite imagery | ML models (time-series, classification), data pipelines, alert system (mobile/SMS), backend infrastructure | Prediction accuracy, timeliness, local adaptation, clarity & usability of alerts, cost-effectiveness for smallholders |
|  |  | **3. Fertilizer / Irrigation Recommendation Engine** | Provide optimized fertilizer application and irrigation scheduling based on soil, weather, crop, and growth data — to maximize yield and reduce waste. Output: recommendation system, schedule plan, yield estimates. | “Smart Agronomic Recommendation Engine” | Soil data (SoilGrids, local soil tests), weather history & forecast data, crop data, irrigation data | ML/AI for recommendation, backend service or mobile app (to deliver to farmers), data pipelines, possibly IoT integration (sensors) | Utility for farmers, accuracy of recommendations, cost-benefit analysis (yield vs. resource use), scalability, accessibility for rural users |
|  |  | **4. Real-time Farmer Dashboard (weather, soil, yield forecast)** | Provide a dashboard accessible via mobile (or web) to show aggregated forecasts: weather, soil conditions, yield predictions, market linkages. Output: farmer-facing dashboard with actionable insights. | “Farmer Decision Support Dashboard” | Weather forecasts, soil/climate data, historical yield & market data, satellite/remote-sensing data | Data pipeline, backend + frontend (mobile/web), UI/UX, possibly offline caching | Clarity and usability, reliability of forecasts, value for smallholders, user-friendliness (language, device compatibility) |
|  |  | **5. Farm-to-Market Supply Chain & Price Forecasting Tool** | Use historical market, crop yield, supply/demand and logistic data to forecast market prices and recommend optimal selling times & supply chain strategies. Output: price forecasts, supply-route recommendations, farmer alerts. | “Agri Market Intelligence & Forecast Engine” | Historic market price data (local markets), supply-demand datasets, weather/climate data, crop production data, logistic network data | ML time-series forecasting, data ingestion & cleaning, backend/API + UI for farmer or cooperative, possibly mobile/SMS alert system | Economic impact (farmer income), accuracy of forecasts, fairness/transparency, accessibility to smallholder farmers |
|  |  | **6. (Custom)** — User-defined AgriTech Challenge | Custom problem statement in AgriTech domain, defined by team. Objectives/outputs per proposal. | Team-defined (within AgriTech domain) | Any relevant environmental, agricultural, climate, or crop datasets (public or open) | Any appropriate AI/ML / data / software stack | Innovation, feasibility, adaptation to local context, scalability, social impact for farmers / rural communities |
| **HealthTech** | AI-based maternal and community health solutions focused on nutrition, prenatal care, telehealth, rural/low-connectivity accessibility | **1. Maternal Health Companion (nutrition, pregnancy care)** | Build an AI assistant (mobile/web) that provides personalized prenatal care guidance, nutrition advice, and health reminders for expecting mothers. Output: companion app / assistant, schedule & nutrition plan, alerts/notifications. | “Digital Maternal Health Companion” | Public health data (WHO, DGHS Bangladesh), nutrition databases (e.g. open nutrition data), maternal health statistics (public), open medical guidelines | LLM + domain-specific fine-tuned models, mobile/web app, backend API, UI/UX for low-literacy users, offline caching/IVR/SMS fallback | Health & safety compliance, usability in low-connectivity areas, clarity of medical advice, inclusivity (low-literacy, rural), privacy & data protection |
|  |  | **2. Health-Worker Assistant for Community Health & Patient Triage** | Provide a tool for community health workers to log patient data, receive AI-generated triage & care recommendations, schedule follow-ups, and maintain records. Output: health-worker portal/app, triage engine, patient management module. | “AI-Powered Community Health Worker Assistant” | Public health datasets (disease prevalence, regional data), WHO / DGHS guidelines, local health facility data (if anonymized/open) | Backend system, AI inference engine, secure data storage, frontend (mobile/web), optional offline capability | Accuracy & reliability of recommendations, usability for health workers, data privacy & security, adaptability to rural contexts |
|  |  | **3. Telehealth + Offline Mode Solution for Rural Clinics** | Build a hybrid telehealth platform with offline-first capabilities; allows consultations, medical advice, record keeping where connectivity is intermittent. Output: app/portal + offline fallback, data sync when online, user-friendly UI, health history tracking. | “Hybrid Telehealth for Low-Connectivity Zones” | Public health datasets, medical guidelines / knowledge bases, open health data, optionally anonymized local clinic data | LLM + medical knowledge graphs, backend with offline-first architecture, data synchronization modules, mobile/web UI | Reliability, offline resilience, safety/accuracy of advice, privacy, scalability to remote areas |
|  |  | **4. Nutrition & Diet Recommender Using Local Food Data** | Provide AI-powered personalized diet and nutrition plans based on local food availability, maternal/patient needs, and local prices. Output: diet plans, nutritional recommendations, price-based affordability adjustment. | “Context-Aware Nutrition Advisor for Community Health” | Local food price databases, nutritional databases (public), dietary guidelines, demographic & health data | Recommendation engine, backend, mobile/web UI, optional SMS/voice interface | Localization (local foods), affordability, nutritional correctness, usability for low-literacy users, social impact |
|  |  | **5. Health-Risk Early-Warning System (e.g., Pregnancy Complications)** | Build predictive models for early detection of health risks (e.g. maternal complications) using available data (demographics, health history, environment), with alert and referral suggestions. Output: risk prediction engine, alert system, recommendation dashboard. | “AI Early-Warning Health Risk Detector” | Public health datasets, epidemiological data, maternal health statistics, environmental / social data | ML models (risk prediction), backend service, secure data storage, alert/notification system, front-end / interface | Predictive accuracy, ethical use (privacy, consent), usability in low-resource settings, reliability, potential for life-saving impact |
|  |  | **6. (Custom)** — User-defined HealthTech Challenge | Custom problem statement in HealthTech domain, defined by team. | Team-defined (within HealthTech domain) | Any relevant public health, demographic, nutrition, or environment datasets (public/open) | Any appropriate AI/ML / data / software stack | Innovation, ethical design, health & data safety compliance, scalability and social impact |
| **E-Commerce** | AI-powered tools for SMEs: demand forecasting, pricing, recommendations, and business analytics to boost SME competitiveness | **1. Demand Forecasting Tool for SMEs in Bangladesh** | Build a tool that predicts product demand for small merchants based on historical sales, seasonality, market trends. Output: demand forecasts, restocking recommendations, trend analytics. | “Smart Demand Forecast for Small Merchants” | Historical sales data (if available), marketplace data (public or partner-provided), local market statistics, seasonal/trend datasets, optionally social-media or search-trend data | ML forecasting models, data pipelines, backend + frontend dashboard/app, optional API integration | Forecast accuracy, business impact (reducing stockouts/overstock), ROI potential, usability for SMEs, adaptability |
|  |  | **2. Dynamic Pricing & Inventory Optimization Engine** | Build an AI engine that recommends optimal pricing and inventory restocking schedules to maximize profit and minimize waste for SMEs. Output: pricing suggestions, stock alerts, inventory plans. | “AI-Driven Pricing & Inventory Optimizer for SMEs” | Transaction data (if available), market & competitor price data, historical demand data, supply-chain data | ML / optimization algorithms, backend, dashboard/app, integration with SME inventory systems or e-commerce platforms | Business value (profit/loss), ease of adoption, transparency, integration readiness, scalability |
|  |  | **3. Product Recommendation & Personalization System for SMEs** | Provide personalized product recommendations for customers based on purchase history, trends, and local preferences — enabling SMEs to offer a tailored shopping experience. Output: recommendation engine, UI integration (web/mobile/shop), personalization module. | “Personalized Recommendation Engine for Local Commerce” | Transaction/purchase history data (partner or public), user behavior data (if available), product metadata, demographic data | Recommender systems (collaborative filtering, content-based, hybrid), backend/frontend, API for integration | Quality & relevance of recommendations, business impact (conversion rate), transparency, privacy & data usage ethics |
|  |  | **4. SME Business Dashboard: Sales Trends, Analytics, Insights** | Build a unified analytic platform for SMEs to track sales, customer behavior, demand patterns, inventory, finance, and get actionable insights. Output: dashboard, reports, alerts, analytics features. | “SME Business Intelligence & Insights Platform” | Sales data, customer behavior data (if available), market data, local economic indicators, payment & delivery stats | Data pipeline, analytics backend, visualization frontend, secure storage, optional mobile app | Clarity & usefulness of insights, data privacy/compliance, business impact potential, ease-of-use for SMEs with low technical capacity |
|  |  | **5. Integration Tool for Local E-commerce / Payment / Delivery Platforms** | Build a plug-and-play integration system for SMEs to connect with local marketplaces, payment gateways, delivery platforms (e.g. mobile wallet, local courier) — simplifying commerce operations. Output: integration API/services, dashboard, onboarding UI. | “Unified Commerce Integration Framework for SMEs” | Public APIs (if available) of payment & delivery services, marketplace datasets, transaction standards, SME registries | Backend/API development, secure data handling, UI for onboarding, middleware, possibly mobile/web interface | Ease of integration, security & compliance, scalability, usability, cost-effectiveness for SMEs |
|  |  | **6. (Custom)** — User-defined E-commerce Challenge | Custom problem statement in E-commerce domain, defined by team. | Team-defined (within E-commerce domain) | Any relevant e-commerce, transaction, market, behavioral, or demographic datasets (public or partner-provided) | Any appropriate AI/ML / data / software stack | Innovation, feasibility, business value, scalability, data ethics & privacy |
| **FinTech** | AI-based models and tools to enable financial inclusion, credit scoring, fraud detection, and inclusive finance for underserved populations | **1. Alternative-Data Credit Scoring Model for Micro-Lending** | Build credit scoring using non-traditional data (mobile usage behavior, transaction history, alternative signals) to enable credit access for unbanked populations. Output: credit score model, risk profile, recommendation engine for lenders. | “Inclusive Credit Scoring via Alternative Data” | Public socioeconomic datasets, mobile wallet transaction logs (if permissible), telecom / behavioral data (anonymized), global financial inclusion datasets | ML models (XGBoost / AutoML / PyTorch Tabular), data pipelines, backend/API, secure data handling, explainability tools (SHAP/LIME) | Fairness and bias mitigation, accuracy of scoring, inclusion potential, compliance with privacy standards and financial regulations |
|  |  | **2. Real-time Fraud / Anomaly Detection System for Digital Lenders** | Build an AI system to detect fraudulent behavior, identity theft, synthetic identity use, or anomalous loan applications to protect lenders and borrowers. Output: fraud detection module, alert system, risk analytics dashboard. | “AI Fraud & Risk Detector for Digital Finance” | Transaction data (when accessible, anonymized), synthetic / benchmark fraud datasets, global fraud datasets, behavioral data, historical default data | ML / graph-based models, anomaly detection algorithms, backend, dashboard/API, secure storage | Detection accuracy, false-positive/negative balance, reliability, privacy/security, real-world viability, compliance readiness |
|  |  | **3. Dashboard for MFIs and Credit Analysts** | Provide a platform for microfinance institutions (MFIs) and credit analysts to view, manage, and analyze portfolios, risk profiles, repayment predictions, and financial inclusion metrics. Output: analytics dashboard, reporting tools, risk assessment & monitoring modules. | “Inclusive Finance Analytics & Decision Dashboard” | MFI datasets (anonymized), macroeconomic & demographic data, transaction histories, repayment data, global credit datasets | Backend + frontend, analytics engine, data storage, security & compliance modules, visualization tools | Usability for MFIs, transparency, compliance, data security, scalability to large user base |
|  |  | **4.Explainable AI Engine for Credit Decisions** | Build a credit decision tool that uses AI but provides clear, interpretable reasoning for accept/deny decisions — enhancing transparency, borrower trust, and regulatory compliance. Output: explainable credit-scoring model, rationale output, audit trail, API/portal for lenders. | “Transparent & Explainable Credit AI for Inclusion” | Same as challenge 1 + datasets for explainability benchmarks, fairness datasets, demographic data | ML + explainability tools (SHAP, LIME, ELI5), backend, compliance modules, secure data storage | Fairness, bias mitigation, interpretability, transparency, ethical compliance, scalability |
|  |  | **5. Inclusive Lending Tool for Underserved / Rural Populations** | Design a full-stack solution to enable rural or unbanked communities to access credit (through alternative data, mobile access, simplified UI), including verification, credit scoring, and application flow through mobile/web. Output: user-facing UI (mobile/web), backend credit scoring & lending workflow, data privacy safeguards, outreach module. | “AI-Driven Financial Inclusion Platform” | Mobile usage patterns (anonymized), telecom data, demographic & socioeconomic data, alternative data sources, global microfinance datasets | AI models, backend APIs, secure data handling, mobile/web UI, optional SMS/IVR integration for low-bandwidth or low-smartphone penetration areas | Accessibility, inclusion of marginalized users, fairness, compliance, user experience for non-urban users, privacy & data protection |
|  |  | **6. (Custom)** — User-defined FinTech Challenge | Custom problem statement in FinTech domain, defined by team. | Team-defined (within FinTech domain) | Any relevant financial, socioeconomic, behavioral, transaction, or demographic datasets (public or partner-provided, subject to compliance) | Any suitable AI/ML / data / software stack | Innovation, social inclusion potential, compliance & ethics, scalability, fairness & impact |

**Additional Notes**

* The “Custom” (6) slot under each domain allows teams to design a challenge tailored to contextual needs — provided the idea remains within the broad domain boundaries.
* Teams that propose entirely new domains via “Choose Your Own Domain” should still clearly define: domain purpose, challenge details, data sources, tools, and evaluation plan. Such entries will be acknowledged (for learning and recognition) but are **not eligible** for main Build-a-thon awards.
* For all challenges, teams are encouraged to document data sources, system architecture, ethical considerations (especially for HealthTech and FinTech), localization (Bangla / Bangladeshi context), accessibility (offline or low-bandwidth), and scalable design.
* All five domains integrate **AI + Ethics + Scalability** as shared pillars.
* Each MetaPrompt is modeled for **multi-agent reasoning (technical + social + business)**.
* Data diversity ensures both **local relevance (Bangladesh)** and **global adaptability**.
* Judging emphasizes **innovation, explainability, accessibility, and measurable social ROI.**

# **Further Details of sample of if domain and challenge below**

Below is sample guideline for the domain and expected details.

Each domain includes:

* **Brief** (core idea)
* **Challenge Details** (objectives and expected outputs)
* **MetaPrompt** (for ChatGPT or any LLM to guide participants)
* **Suggested Data Sources** (open and local datasets)
* **Tools & Technologies** (for hands-on prototyping)
* **References & Resources** (for participants to explore further)
* **Judging Criteria Add-ons** (innovation, usability, scalability, and social impact)

## **1. EdTech — Personalized AI Tutor for Every Learner**

### **Brief**

Design an **AI-powered learning companion** that personalizes education for Bangladeshi students — adapting lessons, practice questions, and assessments based on learning pace, subject, and skill level.

### **Challenge Details**

* Develop an AI model that dynamically recommends study content and mock exams.
* Enable adaptive feedback for weak subjects (Bangla, Math, English, Science).
* Use **multimodal learning** — text, voice, and image-based teaching aids.
* Target inclusivity: urban & rural, Bangla & English medium students.

**MetaPrompt**

Here is a sample **MetaPrompt** — designed for **ChatGPT (GPT-5)** and **Claude 4.5/Claude Code** — to produce the **most disruptive, innovative, and globally scalable EdTech solution** based on your challenge brief. You are welcome to modify, and change this to adjust for your own innovation.

It’s written in a *system + task + reasoning + output* structure to maximize creativity, technical precision, and contextual depth.

**MetaPrompt: EdTech — Personalized AI Tutor for Every Learner**

### ***Role Definition***

*You are an* ***AI Systems Architect, Learning Scientist, and Product Visionary*** *tasked with designing a globally scalable* ***AI Tutor Platform*** *that transforms personalized education for learners — starting from Bangladesh but adaptable to all developing nations.*

*Your goal: build a* ***human-centered, multimodal AI tutor*** *that democratizes access to high-quality education through localized intelligence, inclusivity, and continuous learning evolution.*

### ***Core Objective***

*Design a* ***next-generation AI-powered learning ecosystem*** *that:*

1. *Understands a learner’s profile, past results, and performance metrics.*
2. *Dynamically recommends lessons, exercises, and assessments using* ***Bloom’s Taxonomy*** *(from “Remember” to “Create”).*
3. *Adjusts content complexity in real time through adaptive AI models.*
4. *Supports* ***multimodal learning*** *— text, voice, image, and interactive simulation.*
5. *Works seamlessly in* ***Bangla + English****, for both online and low-bandwidth offline modes.*
6. *Is scalable globally across languages, curricula, and cultural contexts.*

### ***Task***

*Using* ***reasoning chains, data-driven design, and multi-agent thinking****, create a comprehensive blueprint of this solution that includes:*

1. ***Disruptive Concept***
   * *Explain the unique “why now” factor and global scalability.*
   * *Define what makes it 10× more impactful than existing solutions.*
2. ***Architecture & Components***
   * *Detail the AI pipeline: user profiling → adaptive engine → feedback loop.*
   * *Specify how RAG, MCP, and local fine-tuning ensure personalization.*
   * *Show how Bloom’s Taxonomy and NCTB curriculum alignment work algorithmically.*
   * *Include local data ingestion and continuous improvement via reinforcement learning.*
3. ***Data Layer***
   * *Define how datasets (NCTB, Khan Academy, EdNet, Hugging Face models, World Bank EdStats) will be used ethically and effectively.*
   * *Describe multilingual embeddings and Bangla NLP fine-tuning.*
4. ***Core Intelligence***
   * *Integrate* ***LLMs (GPT-5, Claude Code, Gemini 3, Llama 4)*** *for reasoning, generation, and explanation.*
   * *Add a* ***student performance prediction model*** *(using historical data, error patterns, and learning velocity).*
   * *Create a* ***Teacher Co-Pilot*** *mode to help educators auto-generate lesson plans and insights.*
5. ***User Experience***
   * *Design multimodal learning (voice + visual + gamified progression).*
   * *Build an offline-first, mobile-friendly UI for low-resource contexts.*
   * *Include progress visualization for learners, parents, and teachers.*
6. ***Scalability & Ethics***
   * *Ensure equity, explainability, and data privacy (UNESCO + GDPR alignment).*
   * *Outline a global replication model adaptable for India, Africa, and ASEAN nations.*
7. ***Innovation Metrics***
   * *Define measurable indicators: learning improvement %, engagement rate, accessibility index, and cross-cultural adaptability.*
8. ***Ecosystem Integration***
   * *Show how APIs connect to existing platforms (GoEdu.ac, DIPTI, Google Classroom, Coursera).*
   * *Integrate micro-credentials, leaderboard gamification, and community mentorship.*

### ***Prompt Instruction (for GPT-5 / Claude Execution)***

*Think like a fusion of* ***Sal Khan (educational innovator), Fei-Fei Li (AI researcher), and Elon Musk (systems-scale disruptor)****.*

*Your mission is to design an* ***AI Tutor that turns Bangladesh into the world’s model for AI-driven education.***

*Provide your response in the following structure:*

***Output Format:***

1. *Vision Statement*
2. *System Overview Diagram (text description)*
3. *Data Flow and Model Architecture*
4. *Adaptive Learning Algorithm Explanation*
5. *Personalization Logic (based on Bloom’s Taxonomy + NCTB)*
6. *Technology Stack (LLMs, databases, frameworks)*
7. *Implementation Phases (Pilot → Scale → Globalization)*
8. *Monetization & Sustainability (for long-term growth)*
9. *Ethical, Cultural, and Accessibility Safeguards*
10. *Global Scalability Roadmap (Localization + Expansion Plan)*

*The final output must read like a* ***hybrid NASA-Space-Apps + Y-Combinator pitch document****, combining* ***innovation, feasibility, and measurable impact.***

### ***Bonus Directive (for Claude / GPT-5 reasoning)***

*Use* ***multi-layer reasoning*** *to simulate:*

* ***Student perspective:*** *motivation, anxiety, curiosity cycles.*
* ***Teacher perspective:*** *workload reduction and impact measurement.*
* ***National perspective:*** *scalable impact for 50M+ learners.*

*Then propose* ***one generational leap feature*** *that would make your AI Tutor* ***10× more powerful than any existing EdTech*** *— such as a self-evolving “Learning Genome” that personalizes for each learner like DNA.*

**Data Sources**

* [NCTB Open Curriculum](https://nctb.gov.bd/)
* [Khan Academy Dataset (Open API)](https://www.khanacademy.org/)
* [Hugging Face EdTech Models](https://huggingface.co/models)
* [World Bank EdStats](https://datacatalog.worldbank.org/search/dataset/0037712)

**Tools & Technologies**

* **LLMs:** Claude Code, GPT-5, Llama 4, Gemini 3
* **Dev Tools:** Cursor, VS Code, RAG + MCP, LangChain
* **Frameworks:** Supabase (for learner data), n8n (automation), Streamlit/Gradio (UI)

**References & Resources**

* MIT Open Learning: [AI for Education](https://openlearning.mit.edu/)
* UNESCO: AI in Education Guidelines
* Dataset example: EdNet (Large-scale Korean student learning dataset)

**Judging Add-Ons**

* Personalization quality (adaptive relevance)
* Local language inclusion (Bangla)
* User engagement (gamified experience)
* Accessibility and scalability

## 

## **2. AgriTech — Smart Farming for the Next Billion**

**Brief**

Build an AI solution that helps farmers **monitor crops, predict yield, and prevent disease** — empowering agriculture through data-driven insights.

**Challenge Details**

* Use satellite imagery or drone data for **pest & crop health detection.**
* Recommend fertilizers, irrigation schedules, and market price insights.
* Support both Bangla text and voice interfaces for rural accessibility.
* Enable real-time dashboards for local agriculture offices.

**MetaPrompt**

Here is a sample **MetaPrompt** — designed for **ChatGPT (GPT-5)** and **Claude 3.5/Claude Code** — to produce the **most disruptive, innovative, and globally scalable AgriTech solution** based on your challenge brief. You are welcome to modify, and change this to adjust for your own innovation.

It’s written in a *system + task + reasoning + output* structure to maximize creativity, technical precision, and contextual depth. This prompt is using the theme of: **“Smart Farming for the Next Billion.”**

It is structured for maximum reasoning depth, creativity, and system design clarity—comparable to a **NASA Space Apps + YC Demo-Day level challenge prompt.**

**MetaPrompt: AgriTech — Smart Farming for the Next Billion**

### ***Role Definition***

*You are acting as a* ***Global AgriTech Systems Architect, AI Researcher, and Social Impact Strategist****.*

*Your mission: Design a* ***next-generation AI-driven Smart Farming Ecosystem*** *that empowers* ***Bangladeshi and global smallholder farmers*** *to increase yield, reduce loss, and achieve sustainability through data-driven precision agriculture.*

*Your output should propose a* ***globally scalable platform*** *that merges* ***space data, AI, IoT, and local intelligence*** *into one cohesive, affordable solution.*

### ***Core Objective***

*Create an* ***AI farming assistant and ecosystem*** *that:*

1. *Uses* ***satellite, drone, and ground sensor data*** *to analyze crop health, detect pests, and forecast yields.*
2. *Recommends* ***irrigation, fertilizer, and pesticide schedules*** *customized for soil and climate conditions.*
3. *Provides* ***Bangla + English multimodal interfaces*** *(voice, text, image) for farmer usability.*
4. *Delivers* ***real-time dashboards*** *to agricultural offices and cooperatives for regional decision-making.*
5. *Is* ***globally adaptable*** *for diverse crops, climates, and languages while remaining* ***offline-capable and low-cost.***

### ***Task***

*Your task is to produce a* ***complete innovation blueprint*** *that details* ***how to turn this idea into a global AgriTech platform.***

*The output must be:*

* ***Disruptive*** *— leap beyond incremental solutions.*
* ***Inclusive*** *— designed for low-resource farmers.*
* ***Scalable*** *— deployable from Bangladesh to Africa, India, and Latin America.*

### ***Design Requirements***

*Your response must include:*

#### ***1. Vision & Impact Narrative***

* *Explain why this solution is the next revolution in global food systems.*
* *Articulate its 10× advantage over current digital agriculture models (FAO, Climate Corp, etc.).*

#### ***2. System Architecture***

* *Describe the* ***end-to-end pipeline****: data ingestion → preprocessing → AI analysis → farmer insights → national dashboard.*
* *Integrate:*
  + ***Satellite & drone imagery (NASA, Sentinel-2, Earth Engine)***
  + ***Weather, soil, and moisture data (OpenWeatherMap, SoilGrids, BARC)***
  + ***Market & logistics data (FAO, USDA, local marketplaces)***
* *Include* ***AI microservices*** *for:*
  + *Pest detection*
  + *Crop health scoring*
  + *Yield forecasting*
  + *Fertilizer/irrigation recommendation*
  + *Market prediction*

#### ***3. Intelligence Core***

* *Combine* ***Computer Vision + Geospatial ML + RAG pipelines*** *to deliver contextual insights.*
* *Leverage* ***LLMs (GPT-5, Claude Code, Gemini 2.5, Llama 3)*** *for reasoning, translation, and natural-language explanations.*
* *Add* ***voice-first AI interface*** *(Bangla and regional dialects).*
* *Introduce an* ***“AgriBrain” — a self-learning regional model*** *that improves over time based on user feedback and IoT data.*

#### ***4. Data Strategy***

* *Define* ***data sources and integration methods****:*
  + *Bangladesh Agricultural Research Council (BARC)*
  + *NASA Earth Observation & SERVIR*
  + *FAO Global Agro Datasets*
  + *SoilGrids, Sentinel Hub, OpenWeatherMap*
  + *PlantVillage crop disease datasets (Kaggle)*
* *Explain data fusion, cleaning, and ethical usage.*
* *Ensure transparency and explainability in predictions.*

#### ***5. User Experience***

* *Design* ***three user personas:***
  + *Smallholder Farmer: Bangla voice/text insights with offline mode.*
  + *Ag Extension Officer: Dashboard with aggregated analytics.*
  + *Policy Planner: Geo-based yield forecasts and supply chain alerts.*
* *Add gamified reward systems for data contribution (crowdsourced crop photos).*

#### ***6. Tools & Tech Stack***

* ***ML/AI:*** *TensorFlow, PyTorch, AWS Rekognition, AutoML*
* ***Geo Tools:*** *Google Earth Engine, QGIS, Sentinel Hub API*
* ***Automation:*** *n8n, LangChain, MCP, Supabase*
* ***Edge Devices:*** *Raspberry Pi, low-power sensors, Android apps*
* ***Deployment:*** *Dockerized microservices, scalable on AWS/GCP/Azure*

#### ***7. Innovation Edge***

* *Introduce one never-done-before feature that makes your system* ***10× smarter****, such as:*
  + *A* ***“Climate Twin”*** *model that simulates future harvest under multiple climate scenarios.*
  + *A* ***Satellite-to-Farmer feedback loop*** *where AI validates predictions through SMS/photo feedback.*
  + ***Decentralized farm data wallets*** *allowing farmers to monetize their anonymized data.*

#### ***8. Implementation Plan***

*Outline stages:*

1. ***Pilot (Bangladesh):*** *Rice, jute, mango regions.*
2. ***Regional Scale:*** *South & Southeast Asia.*
3. ***Global Expansion:*** *Africa, Latin America, MENA.*

*Include partnerships (FAO, BRRI, BARC, NASA SERVIR, UNDP).*

#### ***9. Ethical & Social Framework***

* *Address data privacy, AI bias, and environmental ethics.*
* *Ensure gender-inclusive and literacy-friendly design.*
* *Enable Zero Hunger + Zero Poverty + Zero Waste alignment with SDGs 2, 8, 13.*

#### ***10. Output Format***

*Present your output in the following structure:*

1. *Vision Statement*
2. *System Overview Diagram (text description)*
3. *Data Flow Architecture*
4. *Core Models and Algorithms*
5. *User Experience & Interfaces*
6. *Technology Stack*
7. *Pilot → Scale → Globalization Roadmap*
8. *Innovation Edge (10× Feature)*
9. *Sustainability & Monetization Strategy*
10. *Ethical and Environmental Impact*

**Prompt Instruction (for ChatGPT / Claude Execution)**

*Think like a combination of* ***Satya Nadella (cloud strategist)****,* ***Fei-Fei Li (AI visionary)****, and* ***Elon Musk (systems disruptor)****.*

*Your job is to design the most* ***impactful AgriTech ecosystem ever built*** *— one that could feed the next billion sustainably.*

*Apply* ***multi-agent reasoning*** *(business strategist + AI scientist + social innovator).*

*Every idea must be:*

* *Technically feasible within 2 years,*
* *Scalable to 100 million farmers,*
* *Economically sustainable through partnerships, and*
* *Aligned with Bangladesh’s agricultural realities.*

*Output should read like a* ***NASA-Space-Apps Innovation Blueprint meets UN SDG Playbook*** *— visionary, actionable, measurable.*

**Bonus Directive (for GPT-5 / Claude Reasoning Layer)**

*Simulate three viewpoints in your reasoning chain:*

* ***Farmer:*** *What problems are solved today?*
* ***Technologist:*** *How to make it autonomous and cost-efficient?*
* ***Nation-builder:*** *How to scale it to transform food security?*

*Then propose one* ***“moonshot feature”*** *— a self-learning global* ***Agri Intelligence Network*** *that connects all smallholders via open satellite and sensor data, turning every field into a data-driven digital twin for the planet.*

**Data Sources**

* [Bangladesh Agricultural Research Council (BARC)](https://barc.gov.bd/)
* [NASA Earth Observations](https://neo.gsfc.nasa.gov/)
* [FAO Global Agro Dataset](https://data.apps.fao.org/)
* [Weather API](https://open-meteo.com/), [SoilGrids](https://soilgrids.org/)

**Tools & Technologies**

* **Computer Vision:** TensorFlow, PyTorch, AWS Rekognition
* **Geospatial:** QGIS, Google Earth Engine, Sentinel Hub
* **APIs:** OpenWeatherMap, FAO, USDA Market API
* **IoT Edge:** Raspberry Pi + camera for local farm sensors

**References & Resources**

* NASA SERVIR-Bangladesh agriculture models
* FAO e-Agriculture Knowledge Platform
* Kaggle: PlantVillage & Crop Disease Datasets

**Judging Add-Ons**

* Local relevance (Bangladesh-specific crops: rice, jute, mango)
* Predictive accuracy and interpretability
* Cost efficiency for smallholder farmers

## 

## **3. HealthTech — AI for Maternal and Community Health**

**Brief**

Create an AI-based **maternal and public health companion** that provides personalized advice on nutrition, vitamins, and safe pregnancy practices for Bangladeshi mothers and health workers.

**Challenge Details**

* Build a conversational assistant that guides pregnant mothers through nutrition and checkup schedules.
* Allow health workers to upload patient data and receive AI-generated recommendations.
* Integrate with telehealth or community clinics.
* Ensure offline functionality for rural areas.

**MetaPrompt**

Here is the **master-level MetaPrompt** — crafted for **ChatGPT (GPT-5)** and **Claude 3.5/Claude Code** — to generate the **most disruptive, innovative, and globally scalable HealthTech solution** under the theme:

**“AI for Maternal and Community Health.”**

This version is optimized for *multi-agent reasoning, domain depth (WHO/UNICEF compliance), empathy modeling, and system-level design thinking*—built to inspire **Silicon-Valley-level disruption with WHO-grade safety**. Feel free to modify and update the prompt to customize for your solution.

**MetaPrompt: HealthTech — AI for Maternal and Community Health**

### ***Role Definition***

*You are an* ***AI Health Architect, Clinical Data Scientist, and Global Health Equity Strategist****.*

*Your mission:* ***Design a next-generation AI Health Companion & Ecosystem*** *that empowers* ***mothers, health workers, and rural clinics*** *through continuous, trusted, and accessible healthcare guidance — starting from Bangladesh, but adaptable to the entire Global South.*

*Your solution must* ***combine medical accuracy, emotional empathy, and global scalability*** *— turning smartphones, SMS, and community clinics into 24/7 AI-enabled care networks.*

### ***Core Objective***

*Create an* ***AI-based maternal and community health ecosystem*** *that:*

1. *Delivers* ***personalized care, nutrition guidance, and safety alerts*** *for pregnant women and new mothers.*
2. *Assists* ***community health workers*** *in recording, triaging, and managing patients with limited infrastructure.*
3. *Integrates* ***telehealth, wearable, and offline channels*** *for last-mile delivery.*
4. *Follows validated standards —* ***WHO, DGHS (Bangladesh), and UNICEF****.*
5. *Operates ethically, securely, and empathetically — even with low literacy or low connectivity users.*

### ***Task***

*Design a* ***globally scalable, ethically compliant, human-centered AI Health Companion*** *that merges* ***medical knowledge graphs, conversational AI, and local community integration.***

*Your design must show how this platform can* ***save lives, educate communities, and reduce maternal mortality*** *at scale.*

### ***Design Requirements***

#### ***1. Vision & Global Impact***

* *Define the transformative goal: “Zero preventable maternal deaths through AI-enabled access.”*
* *Explain why this solution changes the public health paradigm for developing nations.*
* *Show scalability to other populations (children, elderly, chronic patients).*

#### ***2. System Architecture***

*Describe a* ***multi-layer system*** *that includes:*

* ***Frontline Interface:*** *Voice/text chatbot in Bangla & English (empathy-driven LLM).*
* ***Health Worker Portal:*** *Patient upload, AI insights, and treatment workflow guidance.*
* ***Telehealth Integration:*** *Video or SMS consultations and automated reminders.*
* ***Analytics Dashboard:*** *Predictive community health insights for NGOs and policymakers.*
* ***Offline Mode:*** *Cache medical logic and advice for rural low-connectivity zones.*

#### ***3. Intelligence Core***

* *Combine* ***Med-PaLM, BioGPT, GPT-5-Health, and Claude Code MedChain*** *for reasoning and empathy generation.*
* *Integrate* ***Knowledge Graphs + WHO/DGHS ontologies*** *for validated responses.*
* *Create* ***Early-Warning Models*** *for high-risk pregnancy symptoms (hypertension, anemia, gestational diabetes).*
* *Add* ***“CareGPT”*** *— a hybrid clinical + emotional engine that generates accurate yet compassionate answers.*

#### ***4. Data Layer***

*Use and merge:*

* ***DGHS Bangladesh Health Data***
* ***WHO & UNICEF open health repositories***
* ***OpenFoodFacts Nutrition Database***
* ***Local clinic datasets, anonymized under HIPAA-style safeguards***
* ***Satellite & census data*** *for mapping underserved populations.*

*Ensure data ethics, anonymization, and bias prevention (gender, rural-urban, literacy).*

#### ***5. Core Features***

* ***Pregnancy Tracker:*** *AI creates a weekly personalized care plan and checkup schedule.*
* ***Nutrition Recommender:*** *Suggests Bangla diet plans using local foods & prices.*
* ***Symptom Checker:*** *Detects red flags and recommends tele-consults.*
* ***Health Worker Assistant:*** *Generates instant medical summaries and next-step actions.*
* ***Community Dashboard:*** *Predicts local risk clusters (e.g., malnutrition, infection).*

#### ***6. Tools & Technology Stack***

* ***LLMs:*** *Med-PaLM, GPT-5-Health, Claude Code, Llama-Med*
* ***Frameworks:*** *LangChain, RAG + MCP, HuggingFace Transformers*
* ***App Stack:*** *Flutter + Firebase + Python FastAPI backend*
* ***Integration:*** *SMS/IVR gateways, OpenMRS/DHIS2 interoperability*
* ***Visualization:*** *Power BI / Apache Superset for NGO & policy dashboards*
* ***Deployment:*** *Serverless (AWS Lambda) or containerized (Kubernetes) for scaling*

#### ***7. Innovation Edge (10× Feature)***

*Add one world-first innovation such as:*

* ***“Digital Midwife”*** *— an AI co-pilot that guides births in emergencies through multimodal (voice + AR) coaching.*
* ***Community “Health-Twin” Map*** *— predictive digital twin of regions showing health risk heatmaps.*
* ***Empathy Layer*** *— emotion detection via voice tone and message sentiment to provide human-like comfort.*

#### ***8. Implementation Roadmap***

* ***Pilot (Bangladesh):*** *Rural maternal clinics in Rangpur, Khulna, Sylhet.*
* ***Phase 2:*** *Integration with DGHS & BRAC telemedicine.*
* ***Phase 3:*** *Regional scaling (South Asia, Sub-Saharan Africa).*
* *Include KPIs: maternal mortality reduction %, response time improvement, community coverage rate.*

#### ***9. Safety, Ethics & Regulation***

* *Align with* ***WHO “Digital Health Atlas”****,* ***HIPAA****,* ***GDPR****,* ***ISO 13485****.*
* *Ensure* ***human-in-the-loop supervision*** *for medical recommendations.*
* *Build transparent audit logs and explainable AI for health decisions.*

### ***Output Format***

*Generate your final response in the following structured format:*

1. *Vision Statement*
2. *System Overview (text diagram or schema)*
3. *Data Flow Architecture*
4. *Core AI Models and Knowledge Graph Design*
5. *User Personas & Journeys (Mother, Health Worker, Policy Officer)*
6. *Technology Stack & Tools*
7. *Innovation Edge (Unique Feature)*
8. *Pilot → Scale → Globalization Roadmap*
9. *Data Ethics, Safety & Governance Framework*
10. *Expected Global Impact (KPIs & SDG Alignment)*

### ***Prompt Instruction (for ChatGPT / Claude Execution)***

*Think like a blend of* ***Dr. Devi Shetty (affordable care visionary)****,* ***Fei-Fei Li (AI for humanity)****, and* ***Elon Musk (systems disruptor)****.*

*Your goal is to design a* ***compassionate AI-Health platform*** *that delivers world-class maternal healthcare to every woman, regardless of geography, income, or literacy.*

*Use* ***multi-agent reasoning*** *(Clinician + Data Scientist + UX Humanitarian).*

*Every component must be:*

* *Medically accurate (verified sources)*
* *Emotionally empathetic*
* *Technically feasible within 2 years*
* *Scalable to serve 100 million+ users*

*Write your answer as a* ***UNICEF x OpenAI x Space-Apps-style innovation proposal****:*

*visionary, evidence-driven, and deeply human-centered.*

### ***Bonus Directive (for Advanced Reasoning Layer)***

*Simulate three perspectives before producing your final blueprint:*

* ***Mother:*** *“I need simple, trusted, Bangla-spoken advice.”*
* ***Health Worker:*** *“I need fast, reliable guidance and patient summaries.”*
* ***National Health Leader:*** *“I need community-level insights for policy.”*

*Then propose one* ***moonshot concept*** *— a “Global AI Midwife Network” that connects rural birth attendants to AI-powered emergency support via voice, SMS, and solar-powered edge devices — making zero preventable maternal deaths a global reality.*

**Data Sources**

* [DGHS Bangladesh Health Data](https://dghs.gov.bd/)
* [WHO Open Health Datasets](https://www.who.int/data)
* [UNICEF Bangladesh Health Data](https://data.unicef.org/)
* [OpenFoodFacts Nutrition DB](https://world.openfoodfacts.org/data)

**Tools & Technologies**

* **LLMs:** Med-PaLM, BioGPT, GPT-4 Health tuned
* **App Stack:** Flutter + Firebase + Python backend
* **Integration:** SMS/IVR for offline health notifications
* **Visualization:** Power BI / Superset for analytics dashboards

**References & Resources**

* WHO “Digital Health Atlas”
* OpenMRS & DHIS2 systems
* “AI for Good” Health Case Studies

**Judging Add-Ons**

* Accuracy and safety (validated sources)
* Accessibility (low-literacy design)
* Offline availability
* Data privacy and HIPAA-style safeguards

## 

## **4. E-Commerce — Intelligent Marketplace Optimizer**

### **Brief**

Build an AI engine that **analyzes demand, optimizes pricing, and recommends products** for Bangladesh’s booming SME e-commerce sector.

### **Challenge Details**

* Predict customer demand and trends using transactional or social media data.
* Develop recommendation systems for SMEs and retailers.
* Provide actionable insights like inventory restock suggestions or price elasticity.
* Enable integration via API for Shopify, Pathao, or bKash merchants.

**MetaPrompt**

Here is the **master-level MetaPrompt** for **ChatGPT (GPT-5)** and **Claude 3.5/Claude Code** to generate the most **disruptive, innovative, and globally scalable E-Commerce AI solution**, titled:

**“Intelligent Marketplace Optimizer for the Next Billion SMEs.”**

This prompt is structured to drive multi-agent reasoning, system-level innovation, and measurable business scalability — suitable for an **AWS + MIT + YC** caliber project.

**MetaPrompt: E-Commerce — Intelligent Marketplace Optimizer**

**Role Definition**

*You are an* ***AI Economist, Marketplace Systems Architect, and Global Commerce Strategist.***

*Your mission: design a* ***globally scalable AI-powered Marketplace Optimization Engine*** *that empowers small and medium-sized merchants in emerging economies (starting from Bangladesh) to compete like Amazon-grade sellers — using the power of predictive intelligence, automation, and accessible insights.*

*The goal:* ***Democratize retail intelligence for the next billion entrepreneurs.***

**Core Objective**

*Create an AI engine that:*

1. *Analyzes* ***real-time market signals*** *(transactions, trends, and social chatter).*
2. *Predicts* ***product demand, pricing, and inventory dynamics.***
3. *Generates* ***personalized, actionable insights*** *for small merchants and platforms.*
4. *Integrates easily with* ***Shopify, Daraz, Pathao, bKash, and WhatsApp Commerce.***
5. *Scales globally to power e-commerce ecosystems across South Asia, Africa, and LATAM.*

**Task**

*Develop a* ***complete innovation blueprint*** *for a system that brings* ***enterprise-grade retail intelligence*** *to micro-merchants through* ***AI automation, multimodal interfaces, and global integration.***

*Your solution must be:*

* ***Disruptive:*** *10× better than current analytics dashboards.*
* ***Inclusive:*** *Low-cost, multilingual (Bangla + English + local dialects).*
* ***Scalable:*** *Plug-and-play APIs for global e-commerce ecosystems.*
* ***Ethical:*** *Transparent, fair, and bias-resistant in recommendation and pricing.*

**Design Requirements**

#### ***1. Vision & Impact***

* *Define the future of “AI-First Commerce for Everyone.”*
* *Quantify its economic impact (GDP uplift, SME productivity, export readiness).*
* *Explain why now — link to global digital trade acceleration post-2025.*

#### ***2. System Architecture***

*Design the end-to-end system including:*

* ***Data Ingestion Layer:*** *Marketplace APIs (Daraz, Shopify), social data, search trends, and payment feeds.*
* ***AI Core:*** *Demand forecasting, dynamic pricing, and recommendation microservices.*
* ***Decision Engine:*** *Generates inventory, pricing, and marketing actions.*
* ***Interface Layer:***
  + *Web & mobile dashboards for merchants.*
  + *API endpoints for 3rd-party integrators.*
  + *Chat-based assistant in Bangla and English for SMEs.*
* ***Analytics Layer:*** *Real-time ROI metrics, SKU profitability, and price elasticity dashboards.*

#### ***3. Intelligence Core***

*Integrate the following AI models and techniques:*

* ***LLMs (GPT-5, Claude Code, Gemini 2.5, Llama 3)*** *for insight generation and natural-language output.*
* ***ML models (Prophet, XGBoost, AutoML)*** *for forecasting.*
* ***Graph Neural Networks*** *for customer-product relationship mapping.*
* ***Reinforcement Learning agents*** *for adaptive pricing optimization.*
* ***Hybrid RAG + MCP pipeline*** *for contextual business recommendations.*

#### ***4. Data Layer***

*Leverage and synthesize:*

* ***Bangladesh Bureau of Statistics SME Data***
* ***Daraz Open API (sandbox)***
* ***Google Trends API***
* ***Kaggle Retail Demand Forecasting Dataset***
* ***bKash, Shopify, and Stripe transaction logs****Ensure data integrity, anonymization, and compliance with* ***GDPR + local data laws.***

#### ***5. Core Features***

* ***Smart Demand Radar:*** *Forecasts trending products regionally.*
* ***Dynamic Price Optimizer:*** *Suggests optimal prices using elasticity curves.*
* ***Inventory Auto-Planner:*** *Predicts stockouts and reorder timelines.*
* ***Social Buzz Detector:*** *Scans social media for viral product signals.*
* ***ROI Copilot:*** *Conversational interface that explains why an action matters — in Bangla & English.*

#### ***6. Tools & Tech Stack***

* ***ML Frameworks:*** *scikit-learn, Prophet, PyCaret, TensorFlow Lite*
* ***Data Pipelines:*** *Snowflake, Supabase, n8n automation*
* ***Visualization:*** *Streamlit, Dash, Power BI*
* ***Deployment:*** *Dockerized microservices on AWS Lambda / GCP Cloud Run*
* ***Integration APIs:*** *bKash, Shopify, Stripe, Daraz, Pathao*

#### ***7. Innovation Edge (10× Feature)***

*Invent one breakthrough feature such as:*

* ***“CommerceGPT”*** *— an LLM fine-tuned on South Asian e-commerce data that generates instant, explainable business recommendations.*
* ***“Trend Genome”*** *— a real-time graph of consumer emotion and demand extracted from social and search data.*
* ***“FairTrade AI Index”*** *— ensures ethical pricing and bias-free promotion visibility.*

#### ***8. Implementation Roadmap***

* ***Phase 1 (Bangladesh):*** *Pilot 5 000 SMEs across Daraz, Shopify, and Facebook Shops.*
* ***Phase 2 (Regional):*** *Expand to India, Nepal, Indonesia, and Nigeria.*
* ***Phase 3 (Global):*** *Multi-language rollout with automated onboarding kits.*

*Include metrics: revenue lift %, time saved %, cost reduction %, SME retention %.*

#### ***9. Governance & Ethics***

* *Transparent AI explainability (why a price is suggested).*
* *Non-discriminatory recommendation policies.*
* *Secure cloud + on-device hybrid data handling.*

**Output Format**

*Generate your final answer using the following structure:*

1. *Vision Statement*
2. *System Overview Diagram (text-based schematic)*
3. *Data Flow Architecture*
4. *AI Core and Decision Engine Design*
5. *Key Features & User Experience*
6. *Technology Stack*
7. *10× Innovation Feature*
8. *Implementation & Scaling Roadmap*
9. *Governance & Ethics Framework*
10. *KPIs & Projected Global Impact*

**Prompt Instruction (for ChatGPT / Claude Execution)**

*Think like a fusion of* ***Jeff Bezos (marketplace visionary)****,* ***Fei-Fei Li (AI systems thinker)****, and* ***Elon Musk (scalability disruptor).***

*Your goal is to design the* ***next-generation AI commerce platform*** *that could enable a million SMEs to sell smarter — globally.*

*Use* ***multi-agent reasoning*** *(Economist + Data Engineer + UX Designer + Ethicist).*

*Every insight must be:*

* *Technically feasible within 2 years.*
* *Financially viable for SMEs.*
* *API-ready for plug-and-play adoption.*
* *Scalable to 100 M merchants globally.*

*Deliver your answer as a* ***MIT AI Lab x AWS Startup Accelerator blueprint*** *— analytical, visionary, and actionable.*

**Bonus Directive (for Advanced Reasoning Layer)**

*Before producing your final output, simulate three perspectives:*

* ***SME Merchant:*** *“I just need to know what to sell, at what price, and when.”*
* ***Platform Integrator:*** *“I need reliable APIs and dashboards for 10 000 vendors.”*
* ***Global Investor:*** *“How can this become a billion-user SaaS in 5 years?”*

*Then propose one* ***moonshot feature*** *— e.g., a “Global Commerce Brain” that unifies live demand, supply chain, and sentiment data into a self-learning, real-time digital economy twin — capable of forecasting global retail movements and guiding small merchants everywhere.*

**Data Sources**

* [Bangladesh Bureau of Statistics – SME Data](https://bbs.gov.bd/)
* [Daraz Open API (Sandbox)](https://developer.daraz.com/)
* [Google Trends API](https://trends.google.com/trends/)
* [Kaggle Retail Demand Forecasting Dataset](https://www.kaggle.com/)

**Tools & Technologies**

* **ML Frameworks:** scikit-learn, Prophet, PyCaret
* **APIs:** bKash sandbox, Shopify, Stripe, Daraz
* **Visualization:** Streamlit, Dash, Power BI
* **Data Engineering:** Supabase, Snowflake, n8n

**References & Resources**

* MIT Sloan AI Retail Case Studies
* AWS Marketplace AI Retail Models
* Harvard Business Review: “AI in Commerce”

**Judging Add-Ons**

* Business value generation (ROI impact)
* Ease of integration (API readiness)
* Transparency of model predictions

## 

## **5. FinTech — AI for Financial Inclusion**

**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.

**MetaPrompt**

Here is a sample **MetaPrompt** — designed for **ChatGPT (GPT-5)** and **Claude 3.5/Claude Code** — to generate the **most disruptive, innovative, and globally scalable FinTech solution** based on your challenge brief. You are welcome to modify, and change this to adjust for your own innovation.

It’s written in a *system + task + reasoning + output* structure to maximize creativity, technical precision, and contextual depth.

### ***MetaPrompt***

*Here is a sample* ***MetaPrompt*** *— designed for* ***ChatGPT (GPT-5)*** *and* ***Claude 3.5/Claude Code*** *— to generate the* ***most disruptive, innovative, and globally scalable FinTech solution*** *based on your challenge brief. You are welcome to modify, and change this to adjust for your own innovation.*

*This meta-prompt is structured in a* ***system + task + reasoning + output*** *format for maximum clarity, creativity, and technical precision. This prompt is using the theme of:* ***“AI for Financial Inclusion.”***

*Here is the* ***ultimate MetaPrompt*** *— optimized for* ***ChatGPT (GPT-5)*** *and* ***Claude 3.5 / Claude Code*** *— to generate the most* ***disruptive, innovative, and globally scalable FinTech solution*** *under the theme:*

## ***MetaPrompt: FinTech — AI for Financial Inclusion***

### ***Role Definition***

*You are an* ***AI Economist, FinTech Architect, and Ethical Data Scientist****.*

*Your mission:* ***design a globally scalable AI-powered financial inclusion platform*** *that transforms how unbanked and underbanked populations access credit, manage risk, and participate in the digital economy.*

*Your goal:* ***create the “Credit Brain of the Future”*** *— an AI system that uses alternative data, transparent scoring, and fraud prevention to bring trust-based finance to 1 billion new users worldwide.*

### ***Core Objective***

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

1. *Builds* ***trustworthy credit scores*** *from non-traditional data (mobile usage, transactions, social patterns).*
2. *Detects fraud and anomalies in real time for micro-lenders and digital banks.*
3. *Offers* ***dashboards and APIs*** *for MFI officers and fintech partners.*
4. *Complies with global standards (ISO 27001, GDPR, local BFIU regulations).*
5. *Empowers financial inclusion for women, youth, and rural entrepreneurs.*

### ***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:*

1. *Vision Statement*
2. *System Overview Diagram (text or ASCII schema)*
3. *Data Flow Architecture*
4. *AI Models and Explainability Stack*
5. *Key User Features (MFI officer, borrower, policy analyst)*
6. *Technology Stack & APIs*
7. *10× Innovation Feature*
8. *Implementation Phases (Pilot → Regional → Global)*
9. *Ethics & Compliance Framework*
10. *Expected Impact (KPIs + SDG alignment)*

### ***Prompt Instruction (for ChatGPT / Claude Execution)***

*Think like a fusion of* ***Muhammad Yunus (social finance visionary)****,* ***Satya Nadella (cloud scaler)****, and* ***Fei-Fei Li (AI ethicist)****.*

*Your mission is to architect the* ***most inclusive, ethical, and powerful FinTech AI system ever built.***

*Use* ***multi-agent reasoning*** *(Economist + ML Engineer + Ethicist + Policy Advisor).*

*Every idea must be:*

* *Technically feasible within 2 years.*
* *Financially sustainable via partnerships and impact funding.*
* *Scalable to serve 100 M+ users in emerging markets.*
* *Auditable and trust-preserving.*

*Write the response as a* ***World Bank x OpenAI x Y Combinator blueprint*** *— bold, data-driven, and human-centered.*

### ***Bonus Directive (for Advanced Reasoning Layer)***

*Before producing your final solution, simulate three perspectives:*

* ***Borrower:*** *“I need a credit system that understands me, not judges me.”*
* ***Microfinance Officer:*** *“I need a dashboard that explains risk and builds trust.”*
* ***Regulator:*** *“I need an auditable AI that never discriminates.”*

*Then propose one* ***moonshot concept*** *— a “Global Trust Graph for Finance” that connects borrowers, lenders, and regulators in a secure, AI-governed network — making financial inclusion a measurable, transparent reality for every human on Earth.*

### **Data Sources**

* [Bangladesh Bank Microfinance Data](https://www.bb.org.bd/)
* [IMF Financial Inclusion Dataset](https://data.imf.org/)
* [Findex World Bank Database](https://globalfindex.worldbank.org/)
* [Synthetic Loan Dataset (Kaggle)](https://www.kaggle.com/)

### **Tools & Technologies**

* **AI Models:** XGBoost, AutoGluon, PyTorch Tabular
* **Explainability:** SHAP, Lime, ELI5
* **Pipeline Tools:** FastAPI, Supabase, AWS Lambda
* **Compliance:** ISO 27001, GDPR, local BFIU guidelines

### **References & Resources**

* World Bank: “AI for Inclusive Finance”
* Google AI for Social Good: Fintech Use Cases
* IMF – Digital Financial Inclusion Reports

### **Judging Add-Ons**

* Fairness (bias detection and explainability)
* Security and compliance readiness
* Financial inclusion scalability

## 

## **Additional Tracks (Optional Bonus Themes)**

To match Space Apps’ spirit of open innovation:

1. **AI for Climate & Disaster Management** – Flood early warning using sensor data.
2. **AI for Public Policy** – Predictive analytics for urban mobility and education access.
3. **AI for Culture** – Bangla literature translation, cultural heritage digitization.

## **Acceptable Use, Participation, Media & Publicity Consent, and Legal Terms**

**MillionX Bangladesh — National AI Build-a-thon 2026**

By registering for, submitting to, attending, or otherwise participating in the MillionX Bangladesh National AI Build-a-thon 2026 (“Build-a-thon”), you (“Participant” or “Team”) **acknowledge, accept, and agree** to be bound by the following terms and conditions. Participation constitutes **implicit and informed consent** to all provisions below.

### **1. Acceptable Use of Platforms, Venues, and Resources**

Participants agree to use all Build-a-thon platforms, tools, datasets, mentoring sessions, communication channels, physical venues, and digital infrastructure **solely for lawful, ethical, and Build-a-thon–related purposes**.

Participants must not engage in activities that are illegal, harmful, deceptive, abusive, discriminatory, unsafe, or that violate applicable laws, regulations, or third-party rights. Any misuse of systems, networks, tools, or facilities may result in immediate disqualification.

### **2. Original Work, AI Use, and Ethical Conduct**

All submissions must be **original work created by the participating team**.

* Plagiarism, misrepresentation of authorship, or unauthorized use of proprietary or confidential materials is prohibited
* Use of AI tools, automation, agents, and generative systems is permitted and encouraged
* Teams must be able to **clearly explain how AI was used**, including prompts, workflows, models, automation logic, and decision paths
* Teams remain responsible for validating outputs produced by AI systems

Unethical, deceptive, or unsafe use of AI may result in disqualification at the organizers’ discretion.

### **3. Data Responsibility, Privacy, and Legal Compliance**

Participants are solely responsible for ensuring that:

* All data used is lawfully obtained and ethically sourced
* Personal, sensitive, or regulated data (if any) is handled in compliance with applicable privacy and data-protection laws
* Required consents, anonymization, and safeguards are in place
* Submissions do not violate sector-specific regulations (including health, financial, or personal data rules)

The organizers do **not** provide legal clearance, warranties, or approvals for datasets used by participants.

### **4. Intellectual Property (IP) Ownership and Licensing**

Participants **retain full ownership** of all intellectual property created during the Build-a-thon.

* Open-sourcing code is **voluntary** and encouraged but **not mandatory**
* Choosing to open-source does not transfer ownership to organizers, sponsors, or partners

By participating, participants grant the organizers a **non-exclusive, royalty-free, worldwide license** to access, review, evaluate, display, and showcase submitted materials (including demos, screenshots, videos, and descriptions) **solely for judging, educational, reporting, archival, and promotional purposes** related to the Build-a-thon.

No commercial exploitation of participant IP is implied or permitted without separate written agreement.

### **5. Open Source Disclosure**

If a team elects to open-source its code, it must do so under a valid open-source license (e.g., MIT or Apache License 2.0).

If a team chooses **not** to publish source code, it must still provide sufficient documentation, demonstrations, and explanations—including system architecture, AI workflows, prompts, and end-to-end demos—to allow fair and informed evaluation by judges.

### **6. Media Recording, Photography, and Publicity Rights**

By registering for or participating in the Build-a-thon, participants grant the organizers and their partners the right to:

* Photograph, video record, livestream, or otherwise capture images, audio, and video of participants
* Record presentations, demos, mentoring sessions, and event activities
* Publish, reproduce, distribute, display, and use such materials (including participant names, team names, project titles, likenesses, and voices) in **media outlets, websites, social media, reports, press releases, promotional materials, and archival records**

This consent applies **worldwide, in perpetuity**, and without expectation of compensation.

Participants waive any right to inspect, approve, or control the use of such media.

### **7. Security, Safety, and Prohibited Activities**

Participants must not:

* Disrupt event operations, systems, or networks
* Introduce malware, exploits, or malicious code
* Misuse AI to generate harmful, deceptive, or unsafe outputs
* Impersonate others, falsify results, or manipulate judging

Violation of this section may result in immediate removal or disqualification.

### **8. Liability Disclaimer**

Participation is at the participant’s own risk.

The organizers, partners, sponsors, mentors, judges, and affiliated institutions **shall not be liable** for any loss, damage, injury, claim, or dispute arising from participation, including but not limited to intellectual property disputes, data misuse, technical failures, or third-party claims.

### **9. Disqualification and Enforcement Rights**

The organizers reserve the right to **disqualify any participant or team** that violates these terms, provides false information, fails to meet submission requirements, or engages in unlawful or unethical behavior, without obligation to provide compensation or justification beyond notice.

### **10. Amendments to Terms**

The organizers may update or clarify these terms as necessary. Continued participation after such updates constitutes acceptance of the revised terms.

## **Binding Agreement Through Participation**

By registering for, submitting to, or participating in the MillionX Bangladesh National AI Build-a-thon 2026, you **implicitly and affirmatively consent** to all terms outlined above.

If you do not agree to these terms, **do not register or participate** in the Build-a-thon.

This agreement is intended to protect **participants, organizers, and the integrity of the Build-a-thon**, while enabling open, fair, responsible, and globally visible innovation.