Ministry of Electronics and Information Technology
Government of India

Innovation Challenge for Development of AI Solutions

IndiaAI Applications Development Initiative

Powered by

1.1. About

IndiaAI, an Independent Business Division (IBD) under the Digital India Corporation (DIC) of the Ministry of Electronics and IT (MeitY), is the implementation agency of the IndiaAI Mission, which aims to democratize AI's benefits across all strata of society, bolster India's global leadership in AI, foster technological self-reliance, and ensure ethical and responsible use of AI.

As part of this mission, the IndiaAI Application Development Initiative (IADI) will promote the development, deployment, and adoption of AI applications in critical sectors that have the potential to catalyze large-scale socio-economic transformation.

In light of this, the IndiaAI, as an IBD of the Digital India Corporation, Ministry of Electronics & Information Technology, announces an Innovation Challenge under the IndiaAI Application Development Initiative. Through this initiative, IndiaAI IBD, in collaboration with relevant line ministries and departments, looks to support the development/deployment/adoption of AI applications to harness the potential of AI and address the thematic problem areas listed under Annexure I.

Participants are invited to submit their applications to address any one of the critical problem areas outlined in Annexure I, utilizing AI.

The innovation challenge will be implemented in 3 stages:

a. **Initial submission and screening (Stage 1):** Participants across the three eligible categories may register and submit their innovative and cutting-edge proposals as per the Submission Form in Annexure II. The categories include:

- **Category 1 Existing solution:** An organization with an established product, service, or business model that addresses any one of the problem areas listed under Annexure 1 and is rolled out in one or more communities, seeking to achieve scale.
- **Category 2 Prototype**: A team or organization building and testing its product, service, or business model that addresses any one of the problem areas listed under Annexure 1, but which is not yet serving anyone.
- **Category 3 Idea**: An idea for building a product, service, or business model that addresses any one of the problem areas listed under Annexure 1 and is currently being explored for implementation.

Submissions will be evaluated under each category by a multidisciplinary Selection Committee. Up to 5 teams will be shortlisted for Stage 2.

b. **Solution development and testing (Stage-2):**

In this stage, shortlisted teams will refine existing solutions, enhance prototypes,

or develop prototypes from ideas, focusing on optimizing algorithms, improving interfaces, and adding features. This phase includes a mid-phase evaluation to assess progress and provide feedback on development and integration capabilities, leading to the submission of refined solutions for pilot testing. Up to 3 teams will be shortlisted for the next stage.

Finalizing solution and deployment (Stage 3): Selected teams will pilot their solutions for further evaluation. The winner of this stage will receive up to INR 1 crore along with a certificate from the Ministry of Electronics & IT. Support for deploying the solution at a national scale would be provided by MeitY.

1.2. Stages

1.2.1. Program launch and registration

The Program commences on 13th August 2024, and interested teams can submit form until 16th September 2024. To encourage participation from across academia and industry, participating teams are not mandatorily required to be registered Indian Companies/startups to apply for the challenge. However, teams shortlisted at the Ideation Stage will be required to register themselves as Indian Startup/Company and submit relevant proof at the stage of submission of the Prototype. It is expected that by the time of selection at the final stage, necessary registration will be completed to facilitate the signing of the contract for the deployment of the solution for use by the Government.

1.2.2 Initial submission and screening

The intent of this stage is to invite bright minds to propose innovative and cutting-edge ideas/prototypes/solutions for the proposed problem areas outlined under Annexure 1. The proposed ideas/prototypes/ solutions will be evaluated, and up to 5 teams will be selected by the Selection Committee comprising experts from academia, industry and government. Each selected team will receive a funding of up to INR 5 Lakh to build their prototype/ refine their solution.

1.2.3 Solution development and testing

Shortlisted participants will enter the solution development/refinement phase, depending on their solution readiness/eligibility category. MeitY and other relevant government agencies may provide mentorship and domain support to the selected teams as required for this stage.

The final prototypes/solutions will be evaluated, and the Selection Committee will select up to 3 teams for the next stage. Each selected team will receive up to INR 25 Lakhs to build/fine-tune their solution. If needed, mentors may be assigned to the selected teams to help optimize the solution to adequately address the identified problem area. Mentor responses to queries of the selected teams will be made available to all for fairness.

1.2.4 Finalizing solution and deployment

The winning teams of Stage 2 will get a chance of a lifetime to pilot and deploy a fully functioning solution based on the datasets and development environment provided in collaboration with relevant government agencies and a MeitY empanelled CSP. The teams will be free to choose any of the empanelled CSPs as per their choice.The solution will then be presented to the Selection Committee. The solutions will be evaluated based on parameters outlined in Section 1.6 including but not limited to Innovation, Replicability, Scalability,

Usability, Ease of deployment/roll-out, and Potential risks involved in the implementation of the solution.

The winning team will get a contract to deploy their solution for use by the Government of India and its associated entities for a period of 4 years and will also be given up to INR 1 crore. The details of deployment will be worked out by MeitY in consultation with the concerned Departments and State Governments.

All teams including the winning team shall be free to market the product to any entity outside Union/State/UT Government Organizations of India by hosting it an instance that is distinct from that for IndiaAI Mission.

1.3. Registration process

The innovation challenge will be hosted on the IndiaAI portal and utilize Open Forge/GitHub, etc. as detailed below.

1.3.1. Participation in initial submission and screening Stage

I. A team leader will have to individually register and apply for the challenge on the IndiaAI portal by clicking the submit link.
II. In Step 1 of the registration process, after the initial sign-up, the Team Leader should list all the Team Members under the Management Team and complete all organization details.
III. Additionally, the Team Leader will have to answer all additional questions, including uploading documents, and click 'Submit'.

1.3.2. Participation in the solution development and testing stage

I. The Team Leader, along with all other team members, will receive an email about the shortlist and a link to apply for the Solution Development and Testing stage.

II. Team Leaders may create an account on Open Forge/GitHub, etc.

III. The Team Leader can then upload Simulation/Documents & Source Code on Open Forge/GitHub, etc.

IV. The Team Leader will paste the link for their Open Forge/ GitHub, etc. documents on the link received over email.

1.3.3. Finalizing Solution and Deployment:

I. The selected teams enter the final stage.

II. The teams shall develop the complete application, which may be security audited, trained on datasets provided, and hosted on the selected Cloud Environment for final evaluation.

1.4. Awards & Outcome

- **Fast Track your future:** A platform to innovate and deploy the solution for population scale use.
- **Outreach:** A high viewership platform provides you with the opportunity to showcase and promote your innovation to leaders from organizations across India
- **Exposure:** This program offers an opportunity to meet peers in the field and learn about the latest advancements in the ecosystem. Your peers are the region's finest. They are an important part of the experience, so we ensure you work with the very best.
- **Recognition and Reward:** Win funding of up to INR 1 cr at various stages of the program and a government contract.

1.5. Intellectual Property Rights

Any new Intellectual Property Rights (IPR) will belong to the final winner (Institute/organization) of the Innovation Challenge and shall have specific terms of usage for public interest/demand of the Government of India, as per the terms and conditions mentioned elsewhere in this document. It is the responsibility of the fund recipients to protect the new Intellectual Property Rights with their own expenditure through available institutional mechanisms. However, the solution developed through this Innovation Challenge will be available to the Government for deployment under the IndiaAI Mission.

1.6. Evaluation Parameters

The ideas/ prototype/ final product will be judged on the following parameters:

#	Parameter	Description
1	**Approach towards problem solving**	Product idea, degree of innovation, simplicityof final solution, uniqueness & scalability of idea, novelty of approach,
2	**Use case**	Use case, USP and vision
3	**Solution technical feasibility**	Product features, scalability, interoperability, enhancement & expansion, underlying technology components & stack and futuristic orientation
4	**Product roadmap**	Potential cost to build product, regulatory compliance, system integration plan, stakeholder engagement and collaboration, final solution deployment, go to market strategy, time to market
5	**Team ability & culture**	Team leader's effectiveness (i.e. ability to guide, ability to present idea), ability to market product, growth potential of organization
6	**Addressable market**	Users impacted, sectors impacted
7	**Adherence to responsible AI principles**	Safety and reliability, equality, inclusivity and non-discrimination, privacy and security, transparency, accountability, protection and reinforcement of positive human values
8.	**Adherence to data policies and cyber security guidelines**	adherence to applicable Government of India policies, guidelines, regulations on data governance and cyber security
9	**Scalability roadmap and sustainability plan**	Strategy for achieving population scale, long term plan for revenue sustainability

1.7. Evaluation Process

- **Step I: First level quality check & review by organizing team**
  - Assess compliance against the eligibility criteria of participating teams.
  - Assess the quality and completeness of the responses provided in the respective nomination forms.
- **Step II: Assessment & screening by the selection committee**
  - Conduct a detailed assessment of submitted ideas for shortlisting up to 5 teams for the solutions development and testing stage.
  - Contact SPOC to seek additional information/artefacts from theshortlisted nominations, if required.
- **Step III: Shortlisting entries for solution development and testing stage**
  - Conduct presentation and review of prototype/ solutions submitted by all the 5 teams.
- **Step IV: Evaluating entries for solution development and testing stage**
  - Mentors and the organizing team undertake mid-stage reviews to assess progress and provide feedback on development and integration capabilities.
- **Step V: Evaluation of entries for finalizing solution and deployment stage**
  - Conduct presentations for selected teams and review the solutions developed.

1.8. Timeline

#	Activities	Date
1	**Launch of Innovation Challenge**	13-08-2024
2	**Last date for application submission**	16-09-2024
3	**Stage 1: Declaration of teams shortlisted for solution development and testing**	15-10-2024
4	**Last Date for refined prototype/solution submission**	16-11-2024
5	**Presentation by selected teams**	TBD
6	**Stage 2 - declaration of results of solution development and testing stage**	TBD
7	**Submission of final solution**	TBD
8	**Presentation of selected teams**	TBD
9	**Stage 3 – Final declaration of Innovation Challenge winners**	TBD
10	**Contract signing**	TBD

1.9. Overall Flow

The innovation challenge will be hosted on the IndiaAI portal as detailed below.

A. Stage 1: Submission of Initial Entry

Team Leader will submit the details of the entry for:

a. Team Information
b. Project Proposal
c. Technical Details
d. Business Plan
e. Supporting Documents

B. Stage 2: Additional Information for Shortlisted Entries

The respective Team Leaders of the shortlisted teams for Stage – 2 will provide the relevant details and submit the prototype model/ simulation/ source code for verification of authenticity.

1.10. Eligibility Criteria

1. Participating teams must be an Indian company registered under the Companies Act or comply with the definition of Start-up as per the latest notification of DIPP (Available at http://startupindia.gov.in).

   *[**Indian company**: 51% or more shareholding is with Indian citizen or person of Indian origin]*

2. If the Participating Team has not yet registered themselves as a Company, they can still participate, subject to the condition that all participating team members are Indian citizens. However, they will be required to register as a company if they are selected for the final submission.

1.11. Rules & Guidelines

1. All participants and team have to be eligible (See Eligibility Criteria) to participate.
2. If individual innovators are associated with any company, they should provide a No Objection Certificate (NOC) from their employer, stating that the company will have no rights to the prize money and/or intellectual property rights (IPR). Additionally, individuals should inform their employer of their participation in the innovation challenge related to AI solutions.
3. The outcome of this initiative can only be used by the participating team for the

purpose of AI solution development.

4. Winners will retain the rights to the solution/product developed. However, they should adhere to the terms and conditions defined for the innovation challenge related to AI solutions.
5. The solution should not violate/breach/copy any copyrighted or patented concepts
6. The solutions should not violate any data protection and governance regulations and policies.
7. The solution should be in adherence to related cybersecurity standards and guidelines of the government of India.
8. The developed solution/product should be deployed in the chosen Cloud Environment and used for Union/State/UT government entities.
9. The winning entity shall support the product for at least four (4) years from the go-live period.
10. The winning entity shall receive a fixed amount to support the product's sustenance and management.
11. Any new enhancements, features, or innovations during the O&M phase should be released on the chosen Cloud Environment.
12. The winning entity is free to market the product to any entity outside the Union/State/UT Government Organizations of India.
13. Solutions must adhere to ethical principles and guidelines for the development, deployment and use of AI technologies, including fairness, transparency, accountability, and non-discrimination (*refer to 1.6 table of Evaluation parameters: Adherence to principles on Responsible AI*)

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Annexure I- Potential Problem Statements

An indicative list of problem statements is provided below:

1. **Healthcare**: While the Indian healthcare system faces challenges, it also exhibits resilience and innovation. There are disparities in the availability of skilled healthcare professionals and medical infrastructure between rural and urban areas, affecting the quality of services, particularly for marginalized communities. AI-assisted diagnostics and decision support tools can enhance accuracy, improve patient care, and streamline service delivery. These innovations are poised to bridge gaps in healthcare access and promote a more equitable distribution of services across India.

   Use-Case 1: Early disease detection using AI-enhanced X-rays: Solutions that assist healthcare professionals by automating anomaly detection and scan interpretation for diseases such as pneumonia, tuberculosis, lung cancer, and breast cancer amongst others, improving diagnostic efficiency and potentially leading to earlier interventions. This can improve screening and diagnosis of these diseases and reduce the overall burden on the health system.

   Use-Case 2: Strengthening ophthalmology outcomes using AI for detection and management of conditions such as diabetic retinopathy, cataracts, and issues requiring keratoplasty, among others: AI can be used to analyze retinal scans and other diagnostic images, to screen for diabetic retinopathy and reduce health system burden for common preventable blindness conditions such as cataract. Furthermore, AI can aid in surgical planning for procedures such as keratoplasty.

   Use-Case 3: AI-powered vector-borne disease Surveillance and Detection: Vector-borne diseases like Dengue and Malaria pose significant public health challenges in India, especially in tropical regions. AI can enhance disease surveillance efforts for detecting outbreaks and contributing to effective response and control measures that can reduce the overall burden on health facilities. Advanced deep-learning models can complement microscopy and serological tests in the detection of vector-borne diseases in digital images of blood smears.

2. **Improved governance through the use of language technologies:** Enhanced accessibility of government services by addressing language and literacy barriers can empower citizens to seek quick redressal for their grievances and promote inclusive engagement. It will also improve public service access and foster a stronger citizen-government bridge, especially in remote and rural areas. An AI-powered platform leveraging multimodal conversational agents can empower citizens with enhanced access to public services, grievance redressal, and inclusive engagement, fostering a stronger citizen-government bridge in various Indian languages.

Use-Case 1: Public service access: AI platform to improve seamless information retrieval on government schemes and subsidies through a voice/text-based conversational agent working in all Indian languages.

Use-Case 2: Grievance redressal & legal support: AI solutions that integrate Digital India Bhashini in conversational agents for grievance redressal, and legal information, to streamline complaint filing and to offer text and voice assistance can bridge the gap between citizens and government as well as address language barriers.

3. **Agriculture:** India's farmers struggle with erratic weather, pest infestations, and declining yields. Furthermore, many farmers with small landholdings need better access to credit. Post-harvest issues such as crop wastage, logistics, and market access can add to their losses. AI tools and services can empower farmers by enhancing their decision-making, bridging information asymmetries and reducing wastage. It can enable better crop outputs and protect farmers against marketplace and environmental disruptions across India.

   Use-Case 1: Multi-modal farmer advisory services in Indian languages: Solutions that provide climate conditional crop advisory in Indian languages by integrating Digital India Bhashini, crop yield estimation/enhanced crop classification/crop health monitoring using geospatial analytics and best price discovery for crops and microcredit/government credit advisories, etc.

   Use Case 2: Utilizing remote sensing technologies and geo-spatial analytics to improve food security in India: AI models can be leveraged to provide climate-smart agricultural practices and crop varieties that are resilient to changing weather patterns, enhancing food security and farmer income stability.

   Use Case 3: Enhancing financial inclusion of small farmers: Small farmers, typically owning less than 2 hectares of land, encounter barriers such as irregular income, lack of formal credit history, and insufficient collateral. By harnessing AI-driven algorithms, robust credit scoring models can be developed that analyze diverse data sources beyond traditional financial metrics.

4. **Assistive Technology for learning disabilities:** Specific learning disabilities (SLDs) encompass a range of conditions that affect how individuals receive, process, and express information. Common learning disabilities include specific learning disabilities such as dyslexia, dyscalculia and dysgraphia. Globally, it is estimated that 1 in 5 or 20% of the population has a learning disability. However, only 1 in 20 get diagnosed. This often results in academic underachievement and emotional distress for students and parents.

   Identifying learning disabilities early is critical to implementing appropriate interventions and support systems. Innovations, with a special focus on technologies for identification and screening (especially in local languages) and enhancing learning outcomes for

specific learning disabilities through adaptive learning, gamification and remedial teaching technology are crucial.

Use Case 1: Enhanced Multimedia Accessibility tools for text, audio and video content: Students with SLDs often face challenges with consuming content in text format, and they often prefer audio and video formats. There is a need to empower students with SLDs and other neurodiverse conditions with the ability to access text, audio, and video content. AI-based applications can make content more accessible and help improve learning outcomes and productivity.

Use Case 2: Early Identification for SLDs: Early detection of learning disabilities such as dyslexia and dyscalculia in Indian languages is crucial for timely intervention. When identified early, appropriate support and remediation can be provided, significantly improving academic outcomes and self-esteem for affected students.

Use Case 3: Gamified Learning for Dyslexia: Traditional methods of addressing dyslexia often lack engagement and are resource-intensive. Gamification introduces a promising solution, making it more engaging and enjoyable for students, providing personalised and adaptive learning experiences tailored to each student's unique needs and levels. This approach not only makes academic learning more engaging but also has the potential to address the remediation needs of students.

5. **Climate Change and Disaster Management**: India frequently experiences erratic weather conditions with floods, droughts, heavy rainfalls and heat waves. Furthermore, unusual and unprecedented spells of hot weather are expected to occur far more frequently and cover much larger areas in India. AI-driven solutions that improve weather forecasting can enable better planning and preparedness for disaster management. AI innovations that support climate action can promote environmental sustainability, improve resource allocation and enhance relief efforts.

   Use Case 1: Early Warning Systems for Adverse and Sudden Climate Events: AI-driven models can enhance the ability to forecast critical weather phenomena with greater accuracy. AI solutions can aid in the early prediction of cyclones, enhance the detection of heatwaves, anticipate floods resulting from significant rainfall, and improve the forecasting of severe air pollution and fog. Furthermore, they can generate evidence-driven messaging for early warnings. have the potential to assist in timely cyclone prediction, improved prediction of heatwaves, flash floods due to heavy rainfall, severe air pollution forecasting and fog detection.

   Use Case 2: Multi-Hazard Susceptibility Mapping: Susceptibility mapping is crucial for identifying areas at risk from natural hazards like landslides, debris flows, and flash floods. Traditional methods often fall short of accurately predicting complex interactions between various environmental factors and hazards. By pinpointing high-risk areas, it enables targeted preventative measures and strategic emergency response planning, thereby improving community resilience, reducing potential damages, and ensuring

more efficient resource allocation during disasters. AI Models such as Convolutional Neural Networks (CNNs) can process and analyze spatial data from multiple sources, effectively identifying and predicting areas susceptible to natural hazards.

Annexure II- India AI Mission Innovation Challenge for Application Development

Section 1: **Team Information**

1. **Team Name: ****
2. **Team Leader Information:**
    - Full Name:**
    - Email Address:**
    - Phone Number:**
    - LinkedIn Profile:
3. **Team Members:**
    - List each member with their full name, role, email, and LinkedIn profile.
4. **Prior Experience in project implementation and research work**
5. **Prior experience in collaboration with government and/or private entities**
6. **Organization Details (if applicable):**
    - Organization Name:
    - Registration Number:
    - Type (Startup/Company/Other):
    - Date of Incorporation:
    - Address:
    - Website:

Section 2: Project Proposal

1. **Title of the Solution:****
2. **Problem Statement Addressed:****
    - Choose from Annexure I or specify another critical problem area.
3. **What is the research & development work that has already been done in this area? (Globally and in India)**
4. **Description of the Solution:****
    - Provide a detailed description of the solution, including its uniqueness and innovation.

5. **Stage of Development:****
    - Conceptual Idea
    - Prototype Developed
    - Existing Solution in Use
6. **Has the prototype been piloted?** (Please provide details – Where, how and which region/geographies the solution has been piloted and scaled into)
7. **Brief on Solution Capabilities** (Predictive, Descriptive and/ or Prescriptive) **
8. **Technology Stack: ****
    - List the technologies and tools used/to be used (Features & Specifications - AI algorithms, programming languages, platforms etc.)
9. **Target Audience and Impact:****
    - Who will benefit from this solution? Describe the potential impact.
10. **Use Case Scenarios:****
    - Provide specific scenarios where the solution will be applied and what is the USP of the solution/innovation.
11. **Scalability and Sustainability:****
    - How can the solution be scaled? What are the long-term sustainability plans?

Section 3: Technical Details

1. **Architecture and Design:** [Attachment]**
    - Upload or link to architectural diagrams, process flow, flowcharts, and other relevant design documents.
2. **Data Management and Privacy:****
    - Explain how data will be collected, stored, and used. Include measures taken to ensure compliance with relevant regulations and standards like data privacy and security measures.
3. **Compliance with Responsible AI Principles: ****
    - Describe how the solution adheres to principles of fairness, transparency, accountability, and non-discrimination.
4. **Briefly describe key technical hurdles that need to be overcome to implement your innovation and the resources required to do so** (if any)
5. **Does your innovation have relevance to an existing or emerging technical standard?** (A technical standard is a set of requirements for ensuring interoperability among devices or promoting reliability, productivity, efficiency, or

safety of devices)

6. **Intellectual Property (IP) Status:**
    - Detail any patents or IP rights associated with the solution.

Section 4: Business Plan

1. **Business Model:**
    - Describe the business model, including revenue generation strategies.
2. **Market Analysis:**
    - Provide an analysis of the market size, competition, and potential market share.
3. **Go-to-Market Strategy:**
    - Outline the plan for bringing the solution to market.
4. **Partnerships and Collaborations:**
    - List any existing or potential partnerships including any assistance from existing products.

Section 5: Supporting Documents

*Consistent nomenclature is required for all supporting documents

E.g., Individual name_Pitch Deck

1. **Pitch Deck:**** (Upload)
2. **Prototypes/Simulation:** (Upload or provide a link to Open Forge/Github)
3. **Additional Documents:** (Optional - upload any other relevant documents, testimonials, recommendations)

Section 6: Declaration

1. **Declaration by Team Leader:**
    - I hereby declare that the information provided is accurate and complete to the best of my knowledge. I agree to abide by the rules and guidelines of the Innovation Challenge.
    - Date: _____