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TERMS & CONDITIONS AI-AGRICULTURE CHALLENGE HACKATHON

The AI-griculture Challenge Hackathon, referred to as “the Hackathon”. is organized by the International Potato Center (CIP) with the objective of leveraging artificial intelligence (AI) methods to address global challenges in alignment with the CIP2030 Strategy. By participating in the Hackathon, participants agree to abide by the following terms and conditions:

1. OBJECTIVES

The primary objective of the Hackathon is to accelerate the adoption of AI methods to address global challenges and foster a local AI-for-agriculture community. Participants are expected to contribute towards achieving these objectives through their innovative solutions.

2. ELIGIBILITY

The Hackathon is open to a diverse audience, including university students, natural science professionals, data/computer science experts, and other stakeholders with an interest in agriculture innovation. Participants can register as individuals or may form mixed groups, combining individuals from different background.

2.1. Individuals

Field of Study:

University students (undergraduate or graduate) enrolled in programs related to:

- Agriculture
- Computer Science
- Data Science
- Natural Science (e.g., Biology, Agronomy)
- Engineering (e.g., Software Engineering, Electrical Engineering)

Professionals working in:

- Natural Sciences (e.g., Biologists, Agronomists)
- Data Science

- Computer Science

2.2 Experience

No prior experience is required to apply.

2.3 Gender Inclusion

We actively promote participation for women in Science, Technology, Engineering and Mathematics (STEM) fields. We encourage women students and professionals to join the Hackathon, either individually or in teams.

3. HACKATHON FORMAT

The Hackathon will be held in a hybrid format, with both remote and onsite participation options. Specific details regarding onsite location (if applicable) will be announced later.

4. REGISTRATION

Registration for the Hackathon will be open from March 5th to April 15th, 2024. Interested parties can register through the following link.

The registration form will require information such as:

- Personal details (name, email, affiliation)
- Student/Professional status
- Team Information (if applicable)
- Challenges interested in
- Initial approach to the challenge
- Team motivation for participating.

5. PROBLEM CATEGORIES

Participants will have the opportunity to address challenges categorized into specific tracks aligned with CIP 2030'S Science Goals: Biodiversity, Crop Improvement, Regenerative Agriculture, and Urban Food Systems. These Science Goals are aligned with CGIAR's Impact Areas.

Participants are encouraged to select challenges that resonate with their expertise and interests, which are the following:

- 5.1 Optimizing Agronomic Decision Support Through Unifies Data for Enhanced Utility.
- 5.2 Fostering Regenerative Sustainable Agriculture: Harnessing AI for Optimal Potato Crop Rotation Systems.
- 5.3 Enhancing Access and Efficiency in Crop Germplasm Selection: Completing Datasets and Predictive Modeling for Improved Selection Processes.
- 5.4 Future-Proofing Agriculture: Predicting Optimal Trait Combinations and Cultivation Zones in a Changing Climate
- 5.5 Improving Nutritional Access in Urban Lima: Leveraging Data for Policy Action.

6. ENCOURAGING INNOVATIVE SOLUTIONS WITH DATA AND METHODS

The AI-griculture Challenge Hackathon encourages participants to explore cutting-edge approaches for tackling agricultural challenges using Artificial Intelligence (AI). Here's a breakdown of three key areas to consider:

A. NEW USES OF DATA:

- **Integrating Disparate Data Sources:** Combine data from various sources like weather stations, satellite imagery, soil sensors, and farm management records to gain a more holistic understanding of agricultural systems.
- **Incorporating Unstructured Data:** Analyze text data from research papers, agricultural reports, and farmer surveys to extract valuable insights and trends. Utilize image processing techniques for tasks like disease detection in crops through photos or drone footage.
- **Advanced Data Processing Techniques:** Explore the use of deep learning algorithms for image recognition and anomaly detection in agricultural data. Leverage graph analytics to understand complex relationships between different agricultural variables (e.g., soil composition, crop yield, weather patterns).

B. NEW METHODOLOGIES:

- **Combining Traditional and Emerging Technologies:** Develop innovative solutions by merging established agricultural practices with new AI tools. For example, create AI-powered decision support systems that recommend optimal planting times based on historical data and weather forecasts.
- **Novel Algorithms and Frameworks:** Design new algorithms specifically tailored to address agricultural challenges. Develop novel frameworks for data integration, analysis, and visualization to improve decision-making processes for farmers and agricultural stakeholders.

C. NEW APPLICATIONS:

- **AI-Powered Applications for Agriculture:** Design mobile apps or web platforms that utilize AI to assist farmers in various tasks such as pest identification, fertilizer optimization, or yield prediction.
- **Precision Agriculture Solutions:** Develop AI-powered tools for targeted interventions based on specific field conditions and crop needs. Explore applications of robotics or automation for tasks like weed control or selective harvesting based on AI insights.

By exploring these possibilities, participants can contribute to the development of innovative solutions that leverage the power of AI to improve agricultural productivity, sustainability, and resilience.

Here are some additional points to consider:

- **Focus on Feasibility:** While encouraging innovation, ensure proposed solutions are technically feasible and have a clear path towards real-world implementation within the agricultural context.
- **Impact on Stakeholders:** Consider how the developed solutions can benefit various stakeholders involved in agriculture, including farmers, scientists, policymakers, and consumers.
- **Open Access and Scalability:** Prioritize solutions that can be adapted and scaled to different agricultural settings, promoting open-source approaches.

7. EVALUATION AND SELECTION

A panel of judges, from CIP and CIP AI partners, will evaluate entries based on pre-defined criteria, including:

- Creativity and innovation
- Technical merit
- Scalability
- Business model
- Design and user experience
- Impact
- Sustainability
- Inclusion (optional)

8. PRIZES AND RECOGNITION

The AI-griculture Challenge Hackathon offers a range of exciting prizes and recognition opportunities to acknowledge outstanding achievements:

Prize Pool:

- Total Impactful Prize Pool: USD 20,000

Award Distribution:

- The judges have the discretion to distribute the prize pool in the following ways:
 - Category Cash Prizes: A cash prize of USD \$4,000 will be awarded to the winning team in each problem category (CIP2030 Science Goal).
 - Grand Prize: An additional USD \$4,000 grand prize will be awarded to the team with the overall most impressive solution, considering factors like innovation, impact, and feasibility.
 - Alternative Distribution: At the judges' discretion, the prize pool could be distributed differently, allocating funds across multiple teams based on the merit of their entries.

Additional Recognition:

- Certificates: All participating teams will receive certificates of participation in the Hackathon.
- Implementation/Scaling Support: Winning teams will be offered support and resources from CIP to help turn their prototypes into real-world solutions for the agricultural sector.
- Internship Opportunities: Top performing participants might be offered internship opportunities at CIP to gain hands-on experience in applying AI to agricultural challenges.
- Participation in Innovation Panels: Winning teams or outstanding participants might be invited to participate in future discussions and innovation panels organized by CIP, shaping the future of agriculture through their insights.

9. INTELLECTUAL PROPERTY RIGHTS

Participants in the AI-griculture Challenge Hackathon represent and warrant that their submissions do not breach any third-party intellectual property rights.

Participants in the AI-griculture Challenge Hackathon acknowledge and agree that all intellectual property rights arising from their submissions shall remain open access, in alignment with the principles outlined in the [CGIAR Open Access Data Management Policy](#).

By participating in the Hackathon, participants grant CIP and other stakeholders a non-exclusive, royalty-free license to use, reproduce, and distribute their submissions for non-commercial purposes, including research, education, and knowledge sharing. Participants retain ownership of their intellectual property rights but agree to license their submissions under terms conducive to open access and collaboration within the scientific community. CIP and other stakeholders reserve the right to review and evaluate submissions for compliance with open access principles and may request modifications or revisions to ensure alignment with established standards. Participants are encouraged to familiarize themselves with the CGIAR Open Access Data Management Policy and adhere to its principles throughout the duration of the Hackathon. Compliance with open access principles is essential to promoting transparency, accessibility, and innovation in agricultural research and development.

10. DATA USAGE

The Hackathon will primarily use open access data data sets. Participants are encouraged to use open access solutions, unless specific circumstances require otherwise. Participants may access data from various sources, including but not limited to CIP's key repository, Dataverse (<https://data.cipotato.org/>). It is important to note that the data available through Dataverse is licensed under CC-BY (Creative Commons Attribution). Participants should adhere to the licensing terms of any data they utilize during the Hackathon. It is essential to follow these licensing terms to ensure that the advancements created during the Hackathon can be easily utilized, shared, and expanded upon by fellow professionals.

11. DISCLAIMERS

The International Potato Center (CIP) strives to provide a positive and productive environment for all Hackathon participants. However, the following disclaimers apply:

- Technical Issues: CIP disclaims liability for any technical issues, software malfunctions, or unexpected situations that might occur during the Hackathon.
- Data Security: While CIP takes reasonable measures to ensure data security, participants are responsible for safeguarding any data they bring or generate during the Hackathon.
- Discretionary elimination: CIP disclaims any liability for third party intellectual property rights claims related to submissions made by participants. In case of breaches of third party intellectual property, CIP reserves the right to take remedial action, including exclusion from the Hackathon and requesting return of prize money.

12. CHANNELS OF COMMUNICATION

Official communication channels for providing information regarding the evaluation rubric, updates, and announcements will be through the CIP website (<https://cipotato.org/ai-griculture-challenge-hackathon-2024/>) and designated email communications. Participants are encouraged to regularly check these channels for the latest information and updates related to the Hackathon. Effective communication channels will facilitate seamless interaction between participants and organizers, ensuring clarity and transparency throughout the process. Adherence to the

designated timeline will be essential to the smooth execution of the Hackathon, with participants expected to meet deadlines and milestones as outlined in the timeline. Robust engagement from participants will drive collaboration and innovation, fostering a dynamic and vibrant Hackathon environment.

13. TIMELINE

A detailed timeline outlining key milestones and deadlines for the Hackathon is provided below:

- **March 1:** Launch of the Hackathon
- **March 5 – April 15:** General enrollment and initial contact with participants
- **April 16 - May 5:** Pre-selection phase
- **May 10:** Announcement of round one selection of teams
- **May 10 to June 14:** Development and submission of concepts (document and video)
- **June 15 to June 30:** Review and refinement of concepts
- **July 1 to 5:** Presentation of top 3 concepts for further development during CGIAR Science Week
- **December 31:** Final submission of challenge solutions
- **January 2025:** Evaluation and announcement of winners
- **2025:** Scaling or internship opportunities

Participants are required to strictly adhere to the timeline, meeting deadlines and milestones as outlined. This commitment to timely delivery is crucial for the successful execution of the Hackathon and ensures efficient progress throughout the competition. Please note that CIP reserves the right to modify this timeline if necessary, and any changes will be promptly communicated to all participants.

14. ADDITIONAL INFORMATION

- CIP reserves the right to amend these Terms and Conditions at any time.
- Participants are encouraged to visit the Hackathon [website](#) for updates and additional information.
- For any inquiries, please contact CIP-CPAD@cgiar.org