UPAAYA

UPAAYA Ideathon - 2021

Trans Disciplinary Solutions to solve social problems

Organising Committee

PATRONS

Sri. Sankar Viswanathan
Vice President, VIT

Ms. Kadhambari S. Viswanathan
Assistant Vice President, VIT

Co - Patrons

Dr. V. S. Kanchana Bhaaskaran
Pro - Vice Chancellor, VIT, Chennai

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Dr. S. K. Sudarsanam
Dean - VITBS, Chennai

Conveners

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Industry Partnership Cell , VIT, Chennai

Dr. Shwetha M. Krishnappa
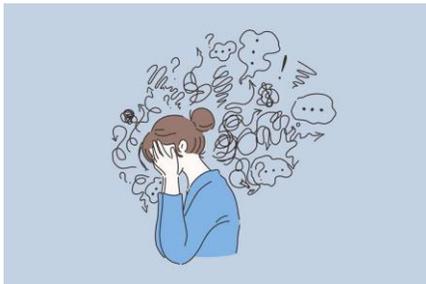Assistant Professor , VITBS, Chennai

ABOUT

An idea is a seed to Opportunities and Team Upaaya is inviting you to participate in a month long Ideathon with an aim to find solutions to some of the most challenging social problems in the field of Agriculture, Education & Healthcare   (Hint: Find the problems under Themes :) !!!).

THEMES

HEALTHCARE

1. **Mental health - Detection, Awareness & Amelioration:**

   A study in 2017 revealed that 14% of India's population suffered from mental health ailments, including 45.7 million suffering from depressive disorders and 49 million from anxiety disorders. Despite this, mental health is one of the most overlooked areas in the Indian Society. There is plenty that needs to be done at all stages right from detection to amelioration. As a part of this theme, we are looking for ideas that can help improve the mental health landscape using technology.

   https://www.ideasforindia.in/topics/human-development/understanding-india-s-mental-health-crisis.html

2. **Improving access and awareness to generic medicines:**

   A generic drug is identical or bio-equivalent to a brand-name drug in dosage form, safety, strength, route of administration, quality, performance characteristics and intended use. Basically, they are cheaper versions of branded drugs. Being cost-effective, they have the potential to make affordable health-care a reality to the majorly lower-middle class population of our country.

   Government initiatives like Pradhna Mantri Bharatiya Janaushadhi Pariyojana have increased adoption and availability of generic medicines. However, it is quite far from what is desirable. Lack of awareness and availability, physicians not prescribing it themselves etc have been some of the major hurdles   in   the

adoption of generics. This theme challenges inventors to come up with ways to improve access, adoption, awareness or any aspect related to the landscape of generic medicines in India.

https://science.thewire.in/health/what-you-need-to-know-about-generic-drugs-and-why-they-matter/

https://www.thepharmaletter.com/article/india-s-generic-drugmakers-thriving-as-people-favor-lower-cost-drug

3. Remote healthcare:

WHO recommends a doctor-population ratio of 1:1000 while the current population ratio in India is only 0.62:1000. Getting new doctors and physicians onboard is a time consuming process and hence this ratio can be expected to be low for some time to come.

This simply means we don't have enough medical care takers. What makes this worse is the skew in the available resources. Nearly 60% of healthcare workers practice in urban areas and on an average people in rural areas spend 1.5 times more on treatment of a disease because it was diagnosed at a later stage.

This is where remote healthcare solutions can change the landscape. For medical facilities, it can potentially shorten the length of hospitalization, relieve medical staff, raise effectiveness of the treatment, early-diagnosis etc, for both rural and urban areas. With this in mind, this theme aims to challenge innovators to come up with remote care solutions that can improve the current healthcare scenario.

https://economictimes.indiatimes.com/blogs/et-commentary/going-remote-brings-healthcare-closer/

EDUCATION:

1. **Detecting learning disabilities at an early stage:**

Till as recently as the late 2000's, the term "Learning Disability" was absent from the educational system in India. It was officially recognized with the Persons with Disabilities Act (PWD) Act of 1995 being amended to include the Specific Learning Disabilities category.

A study in 2012 states that upwards of 10% students in India have learning disabilities. Considering the student population of India that is a huge number. In tackling learning disabilities, one of the biggest challenges is early detection. There are not enough trained individuals to be able to accomplish this at a large scale. However, early detection is of paramount importance when it comes to an effective treatment as treatment becomes progressively difficult with time. In this challenge, we are looking for innovators to come up with solutions to aid in early detection of any kind of learning disability.

2. **Digital opportunities for upskilling rural women**

According to a study of 128 countries that included both developing and developed countries, if the female employment rates were to match male rates in the United States, the overall GDP would rise by 5%, in Japan by 9% and in developing economies like India, this can increase the GDP by 27%.

The biggest challenge in female employment in India comes from the rural areas due to reasons well-documented. There have been some fabled success stories in rural women employment like Godavari Akashkandil, Guna's Quilling, Anita Devi (Mushroom Lady of Bihar) to name a few, however, they are few and far in between. To improve this, skilling and up-skilling is the need of the hour. The new pandemic age has taught us that we can do plenty digitally and that includes   upskilling   women   in   rural   areas.

We have largely been sleeping on the entrepreneurial capacity of the rural workforce especially women and through this challenge we aim to come up with solutions that can help digitally upskill rural women in a profitable venture form.

3. **Improving skill assessment at primary and/or secondary level education**

I wanted to put some fancy stats at the beginning of the description for this theme as well. But I didn't find anything that might be relevant!! That goes to show how much the problem of skill assessment at an early stage needs to be studied and worked upon and the tremendous opportunity it presents. If I were to ask the readers to take a few minutes out and write on a piece of paper their three most valuable skills, they might struggle and I assume most readers of this are at an advanced stage of education.

Most of us would appreciate assistance in figuring out our skills at an early stage so that we can build upon it and have a fulfilling career and yet as mentioned above, there is a dearth of solutions in this area. Like everything, technology can help here as well and more importantly make it available on a large scale in a way that helps make profit and keep it sustainable. Let's chalk out some ideas to improve skill assessment at primary and/or secondary level education as a part of this theme.

AGRICULTURE:

1. Urban Agriculture

According to the reports of FAO, by 2030, 60 % of the people in developing countries will likely live in cities. This rapid growth of city population in the developing world is placing enormous demands on urban food supply systems leading to food shortages during the time of crisis. Urban agriculture is one of the most promising solutions to overcome the crisis. The main idea behind practicing urban agriculture is to have easy access to locally grown food. Some of the benefits of Urban agriculture include increased employment, reduced carbon footprint and strengthening cities resilience to climate change.

In India, Urban Agriculture is not a priority at the moment at the institutional level. The conditions presently existing in most Indian cities are not favorable for the easy adoption of Urban Agriculture

2. Early prediction of onset of pest related issues in crops

About 30-35% of the annual crop yield in India gets wasted because of pests. As per Associated Chambers of Commerce and Industry, crop losses amount to $500 billion annually. Despite this, only 5% of research funds go into studies of crop losses as compared to 95% that goes into increasing agricultural production.

The nature of the problem in this case is such that it is possible to spot early symptoms in many cases before things get worse. The advancements in the field of Computer Vision especially have opened doors for some large-scale deployable-on-the-ground solutions. However, not many such solutions are present in the Indian context. Good solutions in this field have potential to save billions and as a part of this theme we are looking for the same that can particularly help with early detection of pest related issues in crops.

https://www.thehindu.com/news/national/pests-eat-away-35-of-total-crop-yield-says-icar-scientist/article17368426.ece

https://www.downtoearth.org.in/news/climate-change/climate-change-to-make-pests-hungrier-cause-more-crop-loss-61497

https://croplife.org/news/keeping-indias-pests-in-line/

3. Supply Chain Improvement in Agriculture

About 20% of the agricultural production is lost due to improper logistics. The supply chains of agricultural commodities in India, are fraught with challenges stemming from the inherent problems of the agriculture sector. The agri supply chain system of the country is determined by different sartorial issues like dominance of small/ marginal farmers, fragmented supply chains, absence of scale economies, low level of processing/value addition, inadequacy of marketing infrastructure etc

The real measure of supply chain success is how well activities coordinate across the supply chain to create value for consumers, while increasing the profitability of every link in the supply chain. In other words, supply chain management is the integrated process of producing value for the end user or ultimate consumer. With this theme, we invite the bright minds to submit their proposals that provide solutions to the existing challenges.

DETAILS

CONTEST DATES :

- Contest starts : 27th September 2021

- **Contest Ends : 4th November 2021**
  (Extended by 10 days)

- **Shortlisted : 14th November 2021
  Teams to be
  Announced**

- **Finals : 20th November 2021**

ENTRANCE FEE : NIL

GUIDELINES:

1. Teams of 1 - 3 members. Can be cross-disciplinary/cross-degree etc. no restrictions of any kind
2. Follow the specified format for submission. Needed for some uniformity while judging the submissions
3. Multiple submissions allowed. Make sure it's a new submission for each idea
4. Important dates - to be decided.

BENEFITS:

1. **Monetary:** The **first prize** winner will receive **Rs. 25,000/-** as the prize money.
2. **Guidance:** A part of the benefit the winning team will receive will be in the form of guidance in fields ranging from placements, studying abroad, resume building, industry relevant projects etc as the members of team Upaaya have been on a similar path.
3. **Paid Internship:** If the idea is good and the individual/team is technically sound, paid internship opportunities will be extended.
4. **Incubation Opportunity**

EVALUATION   PROCEDURE :

First   Round :-

Students Presentation to be shared with the expert committee

Top 10 or 12 teams will be shortlisted by the committee

Finals   :-

Shortlisted teams will   get the mail from the conveners about the date and time of their   presentation (Finals).

Student teams are expected to make a presentation for 5 to 7 minutes
The teams have to handle Q & A.

Based   on Judgement Metrics (given below) , the 1st prize winner(team), to be decided by the expert committee

JUDGEMENT   METRICS

1. How impactful is the idea in solving the problem
    or an aspect of the problem (Impact) →   25%

2. The clarity the team has in terms of what might
    be needed in taking the idea to fruition
    (Clarity, technical feasibility) →   25%

3. Product Innovation →   25%

4. Market research analysis →   15%

5. Financial feasibility →   10%

Expert Committee

Committee to have the following members

1) Mr. Ankit   - UPAAYA , USA
2) Ms. Brahanya - UPAAYA , USA
3) Ms. Aparajita   - UPAAYA, USA

Technology Marketing / Digital Marketing - Faculty of VITBS

4) Dr. Sudarsanam. S. K
5) Dr. Thangaraja Arumugam

Faculty of   SCOPE

6) Dr. S. Harini
7) Dr. Manas Ranjan Prusty

Artificial Intelligence

8) Dr. Athif Shah , CEO -   ABE Semiconductor
9) Mr. Anay Majee   of   INTEL

Agriculture Track

10) Dr. Siti , HoD , University   Putra, Malaysia

Health   Track

11) Mr. Raghuram Lanka, Product Head , Digital Healthcare at Jio
12) Mr. Dayanidhi Krishna , VP, Afford   Medical

SUBMISSION

Section 1:

Title
Team Name
Team Members name and registration numbers , Mobile Numbers
Vertical

Section 2:
Describe your idea and the need for the idea
- Include the problem statement
- Include some statistics and numbers to substantiate the need

Describe your approach to solve the problem discussed previously
- This section will include an overview of your proposed solution. After reading this section we aim to get a birds-eye-view of your proposed solution. Avoid getting into implementation details, rather present a broader picture.

    For example: Instead of saying "We will use BERT to tokenize the input in the backend for language translation which will be fed to the front-end via the view layer….", you could simply say "we will have a language translation mechanism….", save the details for the next section.

Section 3:
Technical
details:
- This section will include a more detailed description of the various parts of the approach you discussed in the previous section. You can include block/flow diagrams to explain the parts of your solutions. Explain your design
- Include the tools/technologies/algorithms that you would use as a part of your solution
- Include any other detail you think would be relevant for clarification

    After reading this section, we aim to know if the team has some idea of the path that we may have to take to get into prototyping stage. This section is more open ended. Do not constrain yourself to only what is mentioned. Feel free to include any other details.

Section 4:
Demonstration

-   Not compulsory as we are looking for promising ideas. However, looking at the vanilla version of the solution does help in getting a better idea. If you have it, great! Either record a video and share a Google Drive Link.

Section 5:
Market Opportunity and financial feasibility:
-   One of the most important things as entrepreneurs is to be aware of the target market, market size and opportunities for the proposed solution. Do some market research and financial feasibility of your plan. Let us know the potential that you think the idea carries!

SUBMISSION INSTRUCTIONS:

1. Make a presentation as described under the "Template for submission" section.

2. Send it to ....upaayaideathon2021@vit.ac.in
               (or) to the email id's given below

CONTACTS:

For any queries please feel free to reach out to:

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Mr. Rajkumar Murugesan   :   rajkumar . murugesan@vit.ac.in