NITTE HEALTHCARE INNOVATION HACKATHON- 2023

May 5-7, 2023

Background

Successful medical innovation requires a co-creation among crucial healthcare stakeholders, including healthcare professionals, end users, scientists, engineers and entrepreneurs. Health Hackathons are multi-disciplinary events bringing together diverse stakeholders to solve critical health challenges through co-creation. Healthcare Hackathons have gained significant traction as sources of medical innovation globally. They carry particular significance for addressing health discrepancies in resource-limited settings. There is a dire need for cost-effective medical technologies that can deliver high-quality, affordable, and sustainable health care. In this context, Nitte (deemed to be University) in association with AIC - Nitte Incubation Center, is organizing a 3-days Nitte Healthcare Innovation Hackathon between May 5-May 7,2023.

Nitte Health Care Innovation Hackathon will offer an open platform to share ideas that can reshape the future of healthcare in India. This 50-hour Hackathon will include support on technology, innovation, design thinking and keynote address by experts. Working in teams, participants compete for cash prizes and talent exposure while creating innovative, tech-based solutions to challenges thrown by the industry.

Objectives

This Hackathon provides a platform, bringing together fresh perspectives, disruptive approaches, cutting-edge research and knowledge, and encourages a collaborative approach to generate solutions for locally driven medical transformation.

Event Schedule

OPENING OF REGISTRATION	10 TH APRIL 2023
CLOSING OF REGISTRATION	25 TH APRIL 2023
HACKATHON	5-7 TH MAY 2023

Supported By | AIC NITTE INCUBATION CENTRE | NITTE (Deemed to be University) | INSTITUTION INNOVATION COUNCIL | NITTE (Deemed to be University) | TECHNOLOGY ENABLING CENTRE

NITI Aayog | ATAL INNOVATION MISSION

Key Objectives

➢ *To provide a platform for Students/Researchers/ Innovators/ Healthcare professionals/Startups to develop innovative solutions for key unmet clinical challenges that burden our healthcare ecosystem today.*

➢ *To identify and nurture innovations having applications in the underserved healthcare markets that can provide value propositions by addressing the key challenges.*

➢ *To highlight investment opportunities for scalable healthcare innovations.*

➢ *To maneuver start-up ventures to reap the opportunities in Healthcare- sector.*

Why Participate in Healthcare Hackathon?

- ➢ *Opportunity to meet an entire ecosystem of innovators, experiment with the latest technology and explore possibilities of creating a start-up in the core sector;*
- ➢ *Solving real-world problems by application of the design thinking process. Financial boost through attractive prizes and mentoring from industry experts;*
- ➢ *The winning teams will be incubated at AIC-Nitte Incubation Centre with access to our technology labs, innovation facilities, and extensive network across the healthcare sector.*

Who can apply?

- ➢ *Students studying at any Indian University/ Institute;*
- ➢ *Start-ups, Healthcare - Innovators, and Healthcare professionals employed individuals;*
- ➢ *Individuals or teams of 2-4, with cross-functional knowledge and multi-disciplinary skills who are willing to provide innovative and dynamic solutions that can solve high-impact unmet clinical challenges.*

1 Digital solutions in healthcare delivery

Problem statement:

Healthcare delivery requires access, evaluation, and analysis of data related to health parameters and access to health professionals with expertise and special skills.

Challenge description:

Digital technologies and innovations have potential to provide solutions to optimize major workflow processes, compliance with guidelines and standards and improve patient service while reducing the healthcare costs. Artificial Intelligence and Machine Learning could be valuable for finding solutions to many healthcare problems, but to develop appropriate solutions at different healthcare settings and in rural areas requires an active collaboration between healthcare professionals and experts in digital technologies and a good understanding of the problems in the field and at implementation level.

Potential solutions:

Digital tools and devices that can facilitate data analysis, interpretation, data transmission, access to specialists, pharmacies, healthcare at homes.

2 Novel approaches for infection control and patient handing

Problem statement:

Healthcare-associated infections are a significant disease burden that needs to be controlled through improved infection-control practices and patient-handling tools.

Challenge description:

Even in developed countries, healthcare-associated infections affect up to one-third of patients in intensive care units, and the disease burden is even higher in developing countries and low-resource settings. Improving the situation requires collaboration between all levels of healthcare professionals, environmental and administrative interventions, and better tools, equipment, and practices. Data management and risk assessments are important to monitor infections and implement better practices to minimize infections.

Potential solutions:

Better tools and materials to implement hygiene, air and water handling, environment control, and patient handling.

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3 *Devices and tools for better health outcomes*

Problem statement:

Constraints in healthcare delivery at primary, secondary and tertiary care settings would be limiting factor for health outcomes.

Challenge description:

Improving health outcomes would require actions at home as well as in healthcare settings. Development of devices and tools that can improve healthcare services from the time a patient arrives through steps of diagnostics and management requires team of healthcare professionals working closely with digital and equipment support developers and providers. Improvements could be in reducing time of workflow or increasing patient comfort during the process and follow up after hospital visit or lifestyle changes to be implemented at patients homes.

Potential solutions:

Devices and tools to improve patient comfort and outcomes of management and treatment and to implement lifestyle changes needed.

4 Diagnostics and tools for early detection of health problems

Problem statement:

Early detection of cancer, cardiac diseases, Alzheimer's, Parkinson's and other diseases and associated complications.

Challenge description:

Early detection of cancer like breast cancer, cervical cancer, colon cancer as well as complications associated with diseases like diabetes, hypertension in low resource settings is still a challenge. Breast cancer affects 25.8 per 100,000 women with a mortality of 12.7 per 100,000. Cervical cancer has been reported to have an incidence rate of 18.3% and mortality rate of 9.1%. About 8.8 million Indians older than 60 years live with dementia. India is home to about 580,000 people with Parkinson's. Simple devices that can be used at community level and in homes would be important to facilitate early detection of these conditions.

Potential solutions:

Diagnostic tools that can be used in community settings and homes would be required to facilitate early detection.

5 *Nutrition and environment for better health*

Problem statement:

Nutritional deficiencies and environmental issues are at the root of most health problems.

Challenge description:

Environmental issues are mostly related to inadequate management of solid and liquid wastes generated. Innovative solutions are needed for waste recycling, waste utilization and waste management. Inadequate utilization of agricultural resources is an important cause of nutritional deficiencies. Identification of phytochemicals present in agricultural produce and developing commercially viable technologies for their utilization in human nutrition would be important.

Potential solutions:

Developing nutraceuticals from agriculture waste and innovative solutions to environmental problems.

Nitte Healthcare Innovation Hackathon 2023

This 3-day Hackathon will provide a platform for individual entrepreneurs to form their teams or join other start-ups. Companies can find more team resources while they work further on their ideas. All teams will participate in a half-day-long clinical immersion and visit a partnering hospital in their area of interest to validate their needs. A team of experts will provide direct mentoring in the Biodesign process to help teams develop their ideas.

Hackathon Event Schedule

May 05, 2023

04:00 pm - 06:00 pm	Registration
06:00 pm - 07:00 pm	Participants put up their poster on their ideas
07:00 pm - 08:00 pm	Networking and Dinner

May 06, 2023

09:30 am -10:00 am	Inauguration
10:00 am - 12:00 pm	Overview of the Hackathon and two Keynote talks on how teams can best maximize their time during the Hackathon and an overview of how to take an idea to commercialization
12:00 pm - 01:00 pm	Team formation
01:00 pm - 03:00 pm	Networking and discussion
03:00 pm - 05:00 pm	Visit engineering labs and K S Hegde Hospital

May 07, 2023

10:00 am - 12:00 pm	Teams develop something that demonstrates proof of concept for the idea or at least develop something that looks like what the product is and does
12:00 pm - 01:00 pm	The team prepares
01:00 pm - 02:00 pm	Working Lunch
02:00 pm - 04:30 pm	Presentation to Judges
04:30 pm - 05:00 pm	Concluding Session - announcement of the winner in the context.

TRAVEL AND STAY INFORMATION

(Please fill out this form https://dseide.com/aicnitte-travel/

to provide your travel details for the hackathon)

REWARDS

● Cash Prizes

- ◆ INR 50,000 for the winner of the Hackathon
- ◆ INR 25,000 for the 1st runner up
- ◆ INR 15,000 for the 2nd runner up

● Incubation Support

The top five winning teams will get the opportunity to receive incubation support at AIC– Nitte incubation (Virtual/Physical) with a possibility of seed capital investment of up to INR 25 Lakh (subject to evaluation).

● Mentoring Support

An online mentoring session for the top three winners, once every month for one year, to provide them with ongoing guidance, strategic advice, and mentorship.

REGISTRATION

Scan this QR code to register now or visit :

https://dseide.com/aic-nitte/

REGISTER NOW!

*Please Note: Stay will be provided free of cost at the venue to all participants. The cost of travel needs to be borne by the participants

NITTE (DEEMED TO BE UNIVERSITY)

Nitte Deemed to be University has been ranked in the top 100 Universities of India, consistently for the last four years, in the National Institutional Ranking Framework by the Ministry of Human Resources and Development and is accredited with an "A+ Grade" by the National Assessment and Accreditation Council of India. It has received a Diamond rating in the QS I-Gauge Indian Universities Rating and is placed in the band of 401-450 in QS World University Rankings: Asia 2021.

The University takes pride in its dedicated faculty and support staff who strive to create a conducive environment for academic programs and active research and evaluation activities and has successfully generated substantial support from external funding agencies. The University has collaborations and research linkages with national & international organizations like Wake Forest University, USA; National Institute of Health (NM), USA; University of Toronto, Canada; University of Minnesota; Penn State University and Toulouse University, France.
For more details, visit : www.nitte.edu.in

AIC NITTE INCUBATION CENTRE

Atal Incubation Centre Nitte (AIC Nitte) is promoted jointly by the Nitte Education Trust and the NITI Aayog under the *Atal Innovation Mission (AIM)* of the Government of India. AIC Nitte is now among India's Top 20 Impactful Technology Business Incubators. 72 impactful startups have been incubated at AIC Nitte so far - spanning a number of domain spaces, including technology, the Internet of Things, artificial intelligence, blockchain, education, biotechnology, agriculture, healthcare, renewable energy, electric vehicles, composite materials, and solid waste management. AIC Nitte aims to accelerate the entrepreneurial vision of the nation by fostering a start-up ecosystem that converts ideas and budding entrepreneurs into successful businesses led by capable and ambitious business leaders.

72 startups were incubated across 03 cohorts - 31 startups were incubated in Cohort 01, 21 startups in Cohort 02, and 20 startups in Cohort 03. Of the 72 start-ups, 28 startups graduated out of AIC Nitte in the first two cohorts; more are expected to graduate in Cohort 03. 12 start-ups were funded under the 'Start-up India Seed Fund'; the funding amounts to a total of INR 27 Million.
For more details, visit : https://aicnitte.com

INSTITUTION'S INNOVATION COUNCIL (IIC)

Ministry of Education (MoE), Govt. of India has established Institute Innovation Cell (IIC) to systematically foster the culture of Innovation amongst all Higher Education Institutions (HEIs). The primary mandate of Nitte-IIC is to encourage, inspire and nurture young students by supporting them to work with new ideas and transform them into prototypes while they are informative years. The main focus of IIC is to create a vibrant local innovation ecosystem and establish a functional ecosystem for scouting ideas and pre-incubation of ideas, developing the cognitive ability of young minds by conducting various innovation and entrepreneurship-related activities. It is a portal to highlight innovative projects by the institution's faculty and students. It also organizes Hackathons, idea competitions, mini-challenges, etc., with the involvement of industries.

TECHNOLOGY ENABLING CENTRES (TEC)

The current necessity of the nation is a translation of bench-work research to technology for sustainable development. To foster this ideology, the *Department of Science and Technology (DST), Government of India* has initiated the *Technology Enabling Centres (TEC)* in several Universities in the country. Nitte University Technology Enabling Centre (DST NU-TEC) is one among the 10 centers established at the national level. **TEC** aims to create an ecosystem for technology development in the universities, provide a platform to network researchers with other institutes, national laboratories, and industries in the region, and address local needs through scientific intervention for sustainable solutions. It also organizes periodic workshops/ seminars/ interactions with entrepreneurs, investors, and professionals and creates a mentor pool for student innovators to foster innovative research and entrepreneurship. It aims at bridging the gap between academia and industry to move from conceptualization to commercialization. TEC also creates awareness and guides the faculties, entrepreneurs, and students on Intellectual Property Rights (IPR) and plays a major role in enabling and supporting technology/IP transfer and commercialization of granted IPRs. It also conducts workshops, seminars, and training courses on IPR.

For more details, visit : https://dstnutec.in

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*For any questions or queries, please write to

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