Celebration of National Science Day-2024 in Punjab
Theme NSD-2024: 'Indigenous Technologies for *VIKSIT BHARAT*'

Workshop
on

New Horizons in Artificial Intelligence & Machine Learning

01 March, 2024

Event Catalysed & Supported by

Punjab State Council for Science & Technology (PSCST)

&

National Council for Science & Technology Communication (NCTSC)

Department of Science & Technology (DST), Govt. of India

Organised by

DST-Centre for policy research (CPR)

Panjab University, Chandigarh-160014

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Contents

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Celebration of National Science Day-2024 in Punjab
Theme NSD-2024: 'Indigenous Technologies for Viksit Bharat'

Workshop
on
"New Horizons in Artificial Intelligence & Machine Learning"

1st March, 2024

Organized by
DST-Centre for Policy Research (CPR)
Panjab University, Chandigarh

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&
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Department of Science & Technology (DST), Govt. of India

Theme of Workshop

Artificial Intelligence (AI) led science plays a crucial role in advancing our understanding of the natural world, driving innovation, and addressing complex challenges. There is a need to promote and recognize AI led science that expands the scope of research and opens up new avenues for exploration.

National Science Day workshop aims to explore the field of AI, Machine Learning (ML), and other emerging technologies. Through engaging lectures by professionals, quiz and poster competition, and interactive discussions participants will be gaining insights into the latest advancements and applications of these evolving transformative technologies.

Target Audience

- The workshop is designed for under graduate and post graduate students/research scholars interested in exploring the field of AI and ML.
- Participants from other backgrounds and levels of expertise are also welcome to attend.

Activities & Theme

- Poster Presentation on "Green AI"
- Quiz Competition on "AI led Emerging Technologies"

Venue

Seminar Hall, Department of Biotechnology
Panjab University, Chandigarh

Registration Details

Participants may register by using the link/scanner

https://forms.gle/AFmUt6A1eDFPCVoS7

Last date to register for quiz/poster competition: 28 February, 2024

Contact us

📞 0172-2534124   ✉ dstprc2014@pu.ac.in

🌐 https://cpr.puchd.ac.in/

>·> Overview

DST-Centre for Policy Research (CPR) at Panjab University, Chandigarh organized a one Day National Science Day Workshop on "New Horizons in Artificial Intelligence & Machine Learning" under under the theme NSD-2024: "Indigenous technologies for Viksit Bharat", catalyzed and supported by Punjab State Council for Science & Technology (PSCST), National Council for Science & Technology Communication (NCSTC) and Department of Science & Technology (DST), Govt. of India. Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh graced the event and share his views on scope of AI to strengthen the Science and Technology ecosystem. He stressed on gaining the grassroots level knowledge using AI as the tool. He highlighted the need to train the young minds as data scientist to make efficient use of data available such that R & D ecosystem of Indian can be strengthen. He encouraged the participants to use AI in their respective fields in an efficient way. Prof. Harsh Nayyar, Director, Research and Development Cell had also graced the event. He highlighted the job opportunities in AI and ML. He encouraged the participants to contribute towards nation's growth by gaining expertise in superior technologies such as AI. Dr. Amreek Singh, Scientist G, DGRE Lab of Defence Research Development Organisation was the chief guest and keynote speaker for this event. He introduce the concept AI, ML and Deep learning to the participant. He let the participant informed about opportunities in AI as well as challenges in exploration of AI. He informed about the vulnerability involved w.r.t to AI and its subsequent domains. Dr. Satyajit Jena, Associate Professor, IISER, Mohali and Dr. Neha Tuli, Assistant Professor, SSCET, Punjab were the speakers for this moment. In their interactive talks, they let participants know the relevance of AI in industry 4.0. The event provided a great platform to learn various AI techniques and tools that are successfully implanted for socio-economic upliftment. The event witness the participant's engagement through Quiz and Poster presentation activities. This workshop catered more than 100 participants from different colleges and universities by taking part in National Science Day celebration and thereby gaining knowledge on the theme "New Horizons in Artificial Intelligence & Machine Learning".

>> Background

In today's globalized world, technological advancements are rapidly evolving and changing the way we live, work, and interact with each other. Starting from AI based personal assistants to self-driving cars, it has limitless potential. Several ground-breaking innovations are happening in this field. However, as technology is advancing, it is important to consider not only the opportunities but also the ethical and societal impact of these technologies.

National Science Day collaborative workshop between DST-CPR, Panjab University, Chandigarh, and Punjab State Council of Science and Technology, Chandigarh, aim to explore the field of Artificial Intelligence (AI), Machine Learning (ML), and other emerging technologies. Through engaging lectures by professionals, Hackathon, and interactive discussions participants gained insights into the latest advancements and applications of these evolving transformative technologies.

⋗⋗ Objectives

The workshop is objectivized to:

- To enhance the understanding of participants in the field of artificial intelligence (AI) and Machine learning (ML) technologies.
- To provide participants an opportunity to learn from experts, engage in discussions.
- To encourage participants to explore networking opportunities.
- To inspire the participant to be part of the innovation ecosystem in these fields.

Target Audience

- The workshop was designed for students/ researchers/ professionals/ interested in exploring the field of AI and ML.

- Moreover, Participants from other backgrounds and levels of expertise were also welcome to attend .

>>> Inaugural Session

Welcome Address

Prof. Kashmir Singh
Coordinator
DST-CPR, Panjab University

Prof. Kashmir Singh welcomed all the expert speakers, guests and participants for taking part in the national science day celebration. He shed the light on importance of Artificial Intelligence in the present time and what is the need of awareness about ethical use of AI in Indian researcher's mind. He let audience informed about GoI initiative's who has taken lead in the field of AI by launching National AI policy.

Inaugural Address

Prof. Yajvender Pal Verma
Registrar
Panjab University

Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh graced the event and share his views on scope of AI to strengthen the Science and Technology ecosystem. He stressed on gaining the grassroots level knowledge using AI as the tool. He highlighted the need to train the young minds as data scientist to make efficient use of data available such that R & D ecosystem of Indian can be strengthen. He encouraged the participants to use AI in their respective fields in an efficient way. He quoted the example of Nexa in the field of education. He encouraged the participants to bring forward the innovation that can benefit the society. He stressed on the multi-disciplinary approach while doing innovation in the field of AI. He motivated the participants to do wonder in AI such that India should get Noble prize in the field of AL/ML.

>> Inaugural Session

Special Address

**Prof. Harsh Nayyar,
Director, R&D Cell
Panjab University**

Prof. Harsh Nayyar highlighted the job opportunities in AI and ML. He encouraged the participants to contribute towards nation's growth by gaining expertise in superior technologies such as AI and ML. He mentioned that AI has now become a household name. He motivated the participants by quoting the example of China, who is leading in AI by bringing AL/ML in understanding citizen's positive/negative behavior as well as best practices of AI in using manpower and population in rightfull way.

Keynote Address

**Dr. Amreek Singh
Scientist G
DRDO-DGRE**

Dr. Amreek Singh introduce the concept AI, ML and Deep learning (DL) to the participant. He let the participant informed about opportunities in AI as well as challenges in exploration of AI. He informed about the vulnerability involved w.r.t to AI and its subsequent domains. He informed the participant the reason why AI is on the rise in following years? He mentioned the fact that after 2017 there is an exponential growth in data while linear growth in processing power. He highlighted the fact the AI's fast growth can be mapped in the sense that no. of transistors per chip double every 18 months. This is because of the fact that AI offers unique AI offers unique opportunities to provide or enhance features which can be incorporated in decision making systems to augment or even completely replace the human operator. He highlighted some of the important opportunities of AI such as speed and endurance as well as scaling that play key role combats. While mentioning the opportunities in AI he threw the light on the challenges in AI. He mentioned that in critical decision making areas, it require to provide the reason and process for arriving at decision in a human understandable manner as well as AI is often implemented as black-boxes that are impossible to interpret. He mentioned the divergence between ML and DL. He highlighted that DL has revolutionize ML

>> Speaker session

Lecture-I

Dr. Satyajit Jena
Associate Professor
IISER, Mohali

Dr. Satyajit Jena bring forward the importance of the brain. He highlighted how term AI have been in constant learning stage just like human brain. He mentioned that just like neurons in a brain are densely interconnected forming a network, inspired by biological brain models, Artificial Neural Networks (ANNs) are mathematical algorithms widely used in a wide range of applications, from fun to targeted marketing and finance forecasting. While machine learning is a branch of artificial intelligence based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention. He mentioned that Perceptron-An artificial Neuron is inspired by neuron can be used to model intelligence. He high-

Lecture-II

Dr. Neha Tuli
Assistant Professor
SSCET, Punjab

Dr. Neha Tuli in her talk presented the her augmented reality-based products that have been successfully commercialized in the market. She discussed the convergence of artificial intelligence with augmented reality technology, highlighting its potential impact on various industries. She brought forward the difference between Augmented reality (AR) and virtual reality (VR), how both intersect at some point to bring mixed reality (MR) which aims to combine the best aspects of both VR and AR to be prove useful in the areas of education, interior designing, games, medical etc. she threw the light on weak AI vs. strong AI then move on to the convergence of AR and AI. She glimpsed at future where augmented reality will AI and on the other way around.

Quiz and Poster competition

Quiz and poster presentations were organized in the afternoon session. For the both the category participant were get separately registered. In the quiz competition the quiz participant were asked series of question on AI and ML at different level. Judges carefully picked the participant to be promoted to the last level of the quiz where first, second and a runner up was chosen. Participant registered for quiz were actively answered to the question promoted to them in few seconds. Active registration for poster presentation were also received. Participants enthusiastically showed their poster to the judges in poster session and actively answered to the queries raised by the judges. In this category also first, second and a runner up

Interactive Session with AI experts

Dr. Kavita Taneja (extreme left in first picture), Department of Computer Science and Applications & Coordinator, ERP Cell, Panjab University, Chandigarh and Dr. Neha Tuli, HoD Research, SSCET, Punjab & Co-founder, 6DOF Solutions Pvt. Ltd led the interactive session as AI experts. They engaged the participant by throwing the light on the impact of AI that range from Performing Arts to doing Business Studies & Sports and to Health Sciences. They mentioned that AI has become the catalyst for driving forth this digital transformation and ultimately deliver immersive sports that are customized according to game-play. They showed real time products to participant where AI was able to analyse consumer preferences, their behaviour and the frequency of their interaction with such skill based games. Participant were engaged enthusiastically, showing a keen interest in exploring these innovative technologies and their applications. They posed many questions to AI experts. In answer to one of the query experts mentioned that diverse industries have accelerated the adoption of digital technologies in general, including artificial intelligence applications across different nodes of our busi-
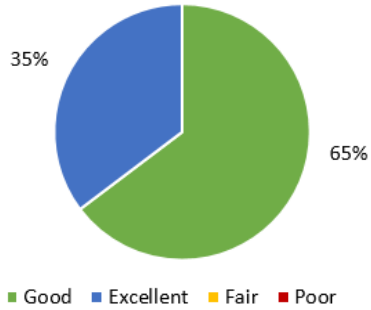
>> Key Outcomes

- Participants gained an understanding of AI, ML, and emerging technologies and their real-world applications.
- Event led to a series of meaningful discussions of recent technologies and their Societal impact and ethical considerations of technology.
- Participants got the chance to connect with AI experts and speaker in the field of AI and ML to exchange ideas and further establish collaboration.
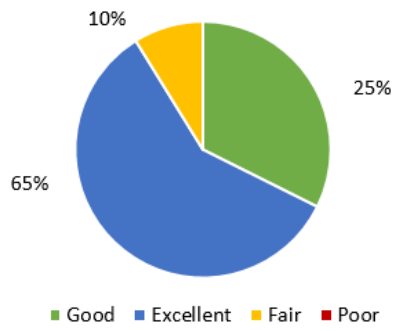
Impact assessment

Overall Experience of the Workshop

35%

65%

Good   Excellent   Fair   Poor

Content covered

10%   10%

80%

Good   Excellent   Fair   Poor

Usefulness for Professional Development

10%

25%

65%

Good   Excellent   Fair   Poor

Gained Knowledge

50%   50%

Good   Excellent   Fair   Poor

Network Opportunities

70%   30%

Good   Excellent   Fair   Poor

>> Social Media Outreach

in LinkedIn

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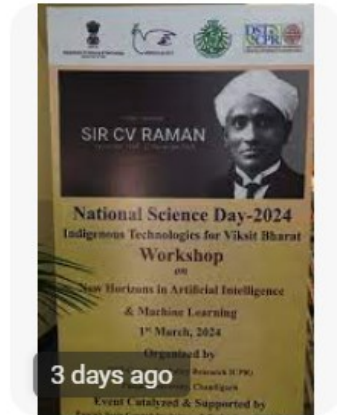
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Home / Education / National Science Day Workshop on "New Horizons in Artificial Intelligence & Machine Learning"

Education

National Science Day Workshop on "New Horizons in Artificial Intelligence & Machine Learning"

DST-Centre for Policy Research (CPR) at Panjab University, Chandigarh organized a one Day National Science Day Workshop under the guidance of Prof Kashmir Singh on "New Horizons in Artificial Intelligence & Machine Learning" under the theme NSD-2024: "Indigenous technologies for Viksit Bharat", catalyzed and supported by Punjab State Council for Science & Technology (PSCST), National Council for Science & Technology Communication (NCSTC) and Department of Science & Technology (DST), Govt. of India.

https://www.cityairnews.com/content/national-science-day-workshop-on-new-horizons-in-artificial-intelligence-

DST-CENTRE FOR POLICY RESEARCH
PANJAB UNIVERSITY, CHANDIGARH

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Date- March 1st, 2024 (09:30 AM-5:00 PM)

Venue- Seminar Hall, Department of Biotechnology, Panjab University, Sector-25, Chandigarh

DST-Centre for Policy Research (CPR) at Panjab University, Chandigarh organized a one Day National Science Day Workshop on "New Horizons in Artificial Intelligence & Machine Learning" under under the theme NSD-2024: "Indigenous technologies for Viksit Bharat", catalyzed and supported by Punjab State Council for Science & Technology (PSCST), National Council for Science & Technology Communication (NCSTC) and Department of Science & Technology (DST), Govt. of India. Prof. Yajvender Pal Verma, Registrar, Panjab University, Chandigarh graced the event and share his views on scope of AI to strengthen the Science and Technology ecosystem. He stressed on gaining the grassroots level knowledge using AI as the tool. He highlighted the need to train the young

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Workshop
on
New Horizons in Artificial Intelligence & Machine Learning

01 March, 2024

Venue

Seminar Hall, Department of Biotechnology, Panjab University, Chandigarh-160014

Program

Timings	Agenda
9:30 AM	Registration
10:00 AM	PU Anthem
10:10 AM	Floral Welcome of Distinguished Guests
10:15 AM	Lamp Lightening
10:20 AM	Welcome address and Introduction to the theme of Symposium
10:25 AM	Inaugural address by *Registrar, Panjab University, Chandigarh*
10:30 AM	Remarks by *Director RDC, Panjab University, Chandigarh*
10:35 AM	Keynote lecture by Chief Guest *Dr. Amreek Singh, Sc-G, DRDO-DGRE*
11:25 AM	Vote of Thanks
11:35 AM	Tea Break
12:00 AM	Lecture I- Dr. Satyajit Jena, Associate Professor, IISER, Mohali
12:45 PM	Lecture II- Dr. Neha Tuli, Assistant Professor, SSCET, Punjab
1:30 PM	Networking Lunch
2:00 PM	Quiz and Poster Presentation
3:00 PM	Interactive session with AI Experts
4:00 PM	Prize distribution
4:15 PM	Concluding Remarks & Vote of Thanks
4.30 PM	Group Photo followed by High Tea