



SAL Institute of technology & Engineering Research

SAL College of Engineering

Department of Information Technology

Expert Session

On

**“Innovative Applications of Machine Learning in
Healthcare”**

22nd February, 2022.

Director :-Dr. Rupesh Vasani

Principal: -Dr. Bhavna Soni

Head of Department: - Prof. Vijaysinh Jadeja

Session Conducted by: - Asst. Prof. Aarti Parekh

Department of Information Technology

SAL Education, Ahmedabad



Date:22/02/2022

Venue: SAL College of Engineering

Mode of Session: Online – ZOOM

Title of Session: Innovative Applications of Machine Learning in Healthcare

Name of speaker :- Mrs. Aarti Parekh

No. of students Participated: 112

No. of faculties Participated: 05

No. of external Participated (if any): Nil

Objective:

To make the students aware about the Innovative Applications of machine learning in healthcare domain

The objectives of this session were to expose the participants to the recent Applications in Machine Learning (ML), to introduce the Machine Learning Algorithms and the application of Machine learning in healthcare domain and to help students to take up projects in these domains.

About the Event:

The Department of Information Technology of SAL College of Engineering has organized an Expert session on “**Innovative Application of Machine Learning in Healthcare**” for the pre final Year Students. This session was organized so that students can understand. The purpose of implementing ML solutions in healthcare domain.

Highlights of the Session:

The session started by event coordinator Mrs. Alpa Oza with the basic Introduction of the topic and the Introduction of Institution’s Innovation Council. Speaker Mrs. Aarti Parekh has also given her basic introduction and her key skills details. First basic difference between artificial Intelligence, machine learning and deep learning was explained.

The session commenced with a brief introduction to Machine Learning, followed by the types of Machine Learning techniques: Supervised, unsupervised and reinforcement learning. She has explained all these techniques by real world examples. The steps involved in ML algorithms were then presented. The speakers stressed on how Machine Learning can be used to solve various problems.

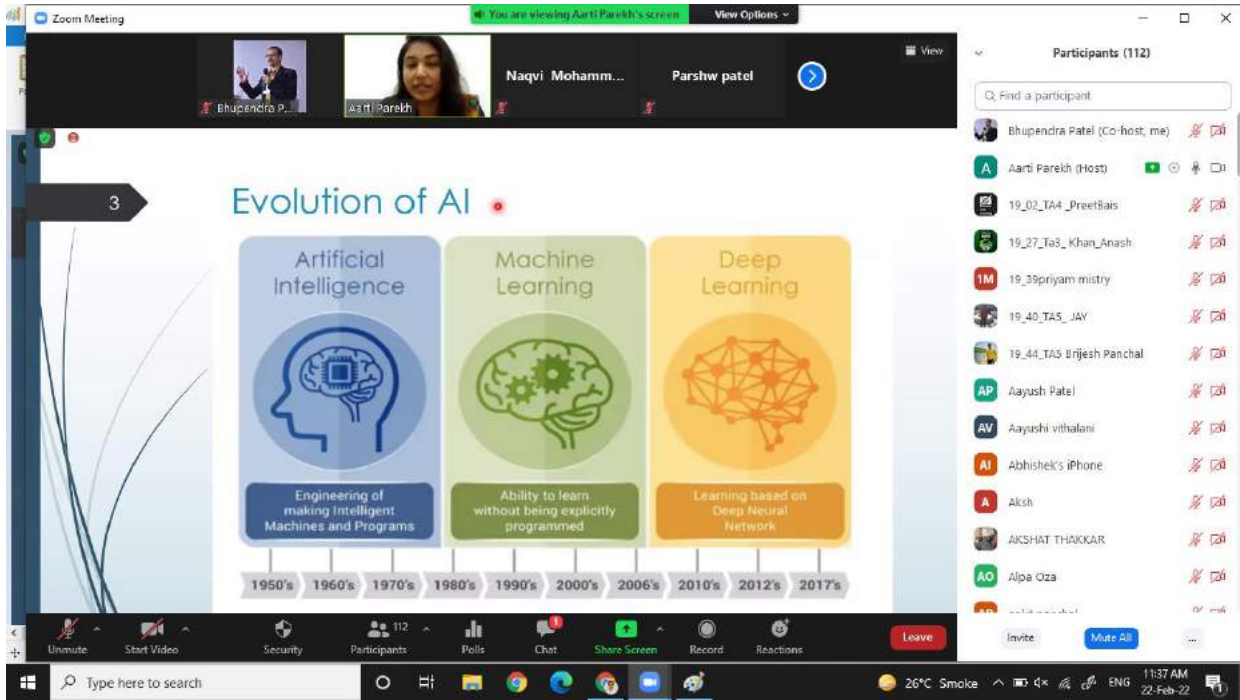
Some leading technologies and applications which make use of ML were also covered. At the end, she explained top healthcare android applications which were made using ML and also demonstrated some live projects and research work on 'Automated lung disease detection' and 'brain tumor detection' which was done using ML. The session concluded with challenges and future opportunities in the healthcare domain.



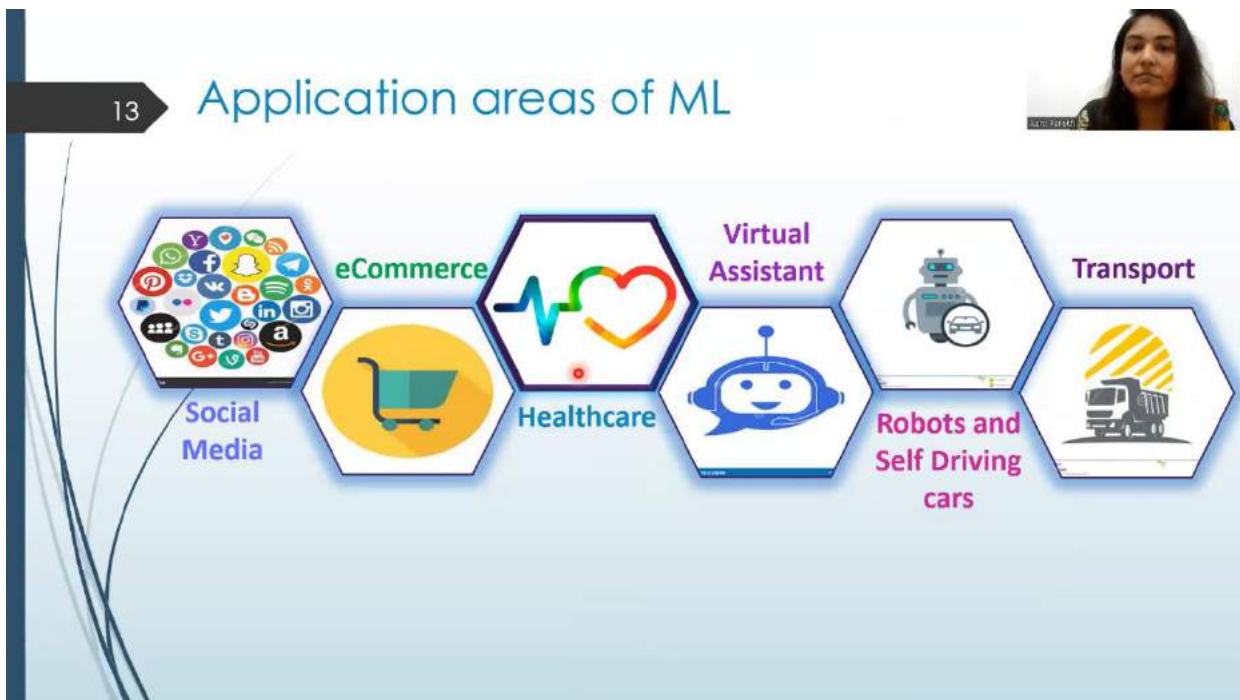
Innovative Application of Machine Learning in Healthcare

Presented by,
Asst. Prof. Aarti Parekh
B.E.(IT), M.E.(CE), Ph.D (Pursuing)
IT Department, SCE

Zoom Meeting interface showing a slide titled "Evolution of AI". The slide features three columns: Artificial Intelligence (1950's-1970's), Machine Learning (1980's-2000's), and Deep Learning (2010's-2017's). A participant list on the right shows 112 participants.



Slide titled "Application areas of ML" showing six categories: Social Media, eCommerce, Healthcare, Virtual Assistant, Robots and Self Driving cars, and Transport. Each category is represented by a hexagonal icon.

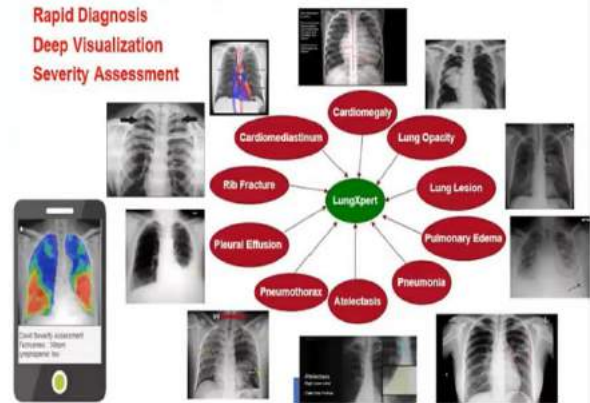


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LungXpert: ML Based tool for cardiologist for Early detection of Lung disease [2020]

Dr. Sasikaladevi N, Senior Assistant Professor, SASTRA University, winners of MyGov COVID-19 Shri Shakti Challenge, a contest to develop solutions to tackle COVID-19.

RAISE 2020 challenge this idea in a good position to receive approvals from the Government of India to access data from Indian hospitals like All India Institute of Medical Sciences (AIIMS).



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ML-Based Healthcare Apps



Migraine Buddy - is a great healthcare app which adopts ML to forecast the possibility of a headache and recommends ways to prevent it.



Happify - is app that takes a creative approach to dealing with mental health issues. It features engaging events, including games and other activities led by Anna, a digital AI instructor.



ADA-AI Doctor - Users may enter their conditions using the app's instant messaging feature. Easy questions are asked by ADA's AI technology to get a deeper understanding of the user's conditions.



Binah.AI - is a fitness tracking app that analyses light waves from the cheeks from smartphone camera to check the face in around 2 minutes and reports symptoms like heart rate, mental stress, blood pressure, etc.



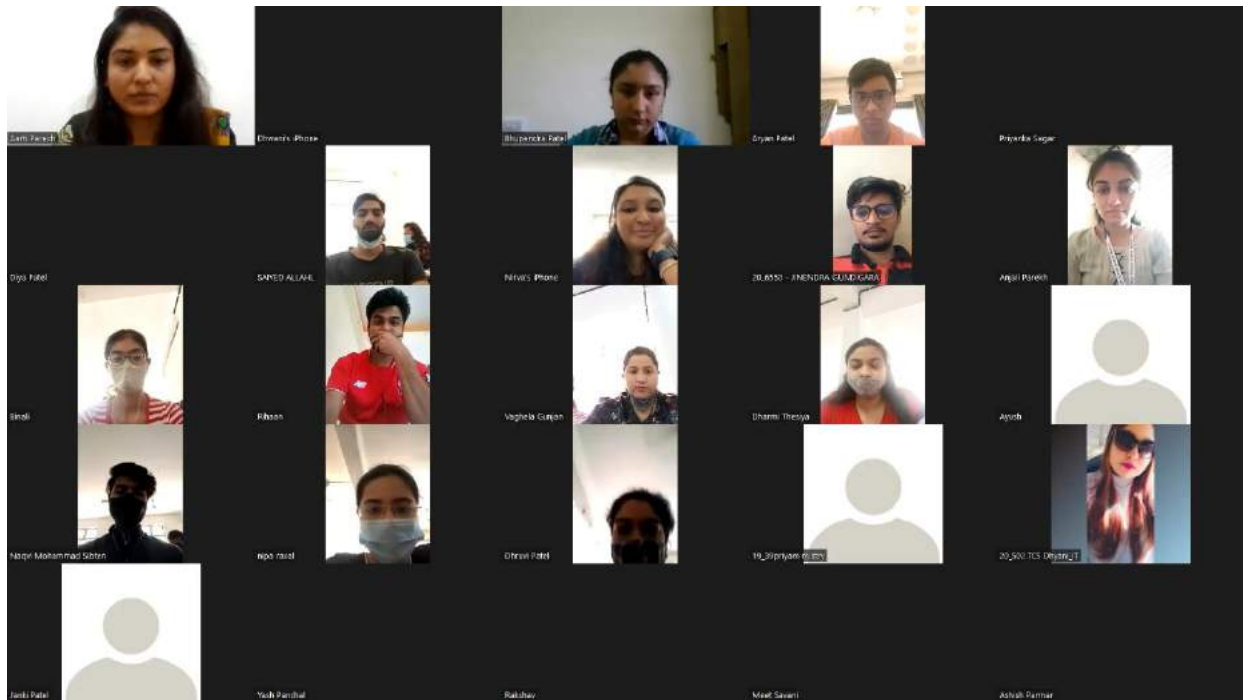
SkinVision - it expands your ability to self-examine your skin and elevates your knowledge when to act, how and why, along with the most reliable personalised skin health advice and health path recommendation.



Sensely - A virtual reality nursing assistant avatar that visits the patient once or several times a day is seen here. The avatar can request that the patient examine their weight and blood pressure.



PathAI - employs machine learning to help pathologists make quicker and more accurate diagnoses.



Total 112 participants were Present in this Program Including students and Faculty members. Students have a good impact of this Session for their future project.

Report Prepared By:

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