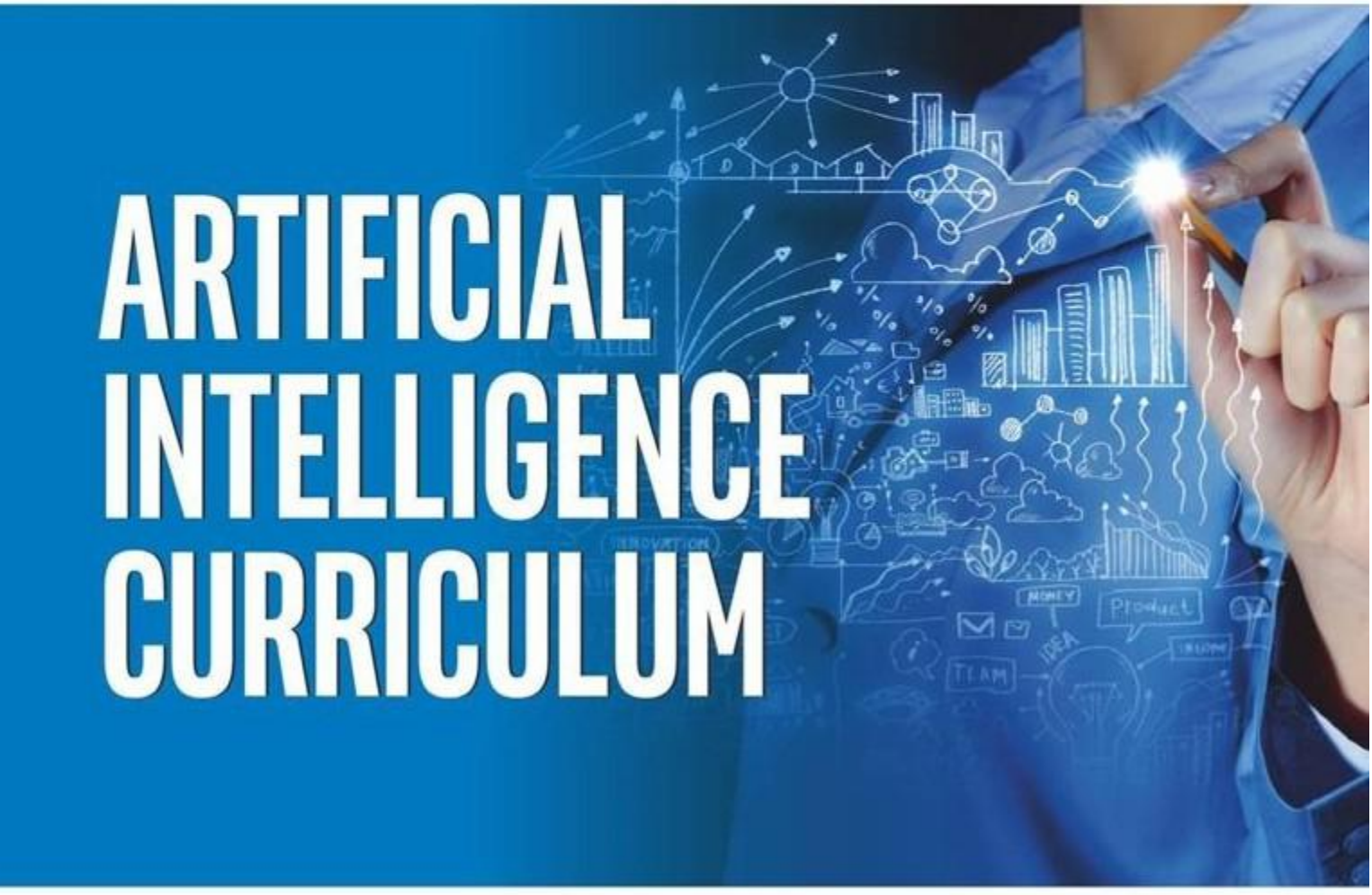

Class 6

Facilitator Handbook

ARTIFICIAL INTELLIGENCE CURRICULUM

Curated with support from Intel®

Acknowledgements

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About the Book

Welcome to the world of Artificial Intelligence!

As we embark on this educational journey, it is our pleasure to introduce you to the AI Facilitator handbook for class VI. In an era where technology permeates every aspect of our lives, understanding Artificial Intelligence (AI) is not just advantageous but essential for the holistic development of young minds.

This book is specifically designed for AI teachers and students of Class VI and provides a comprehensive introduction to Artificial Intelligence. Students will learn about the fundamentals of AI, its applications, and how it works. The content also explores the main domains of AI, such as Computer Vision, and examines its practical applications in real-world scenarios.

Through engaging activities and real-world applications, this book fosters creativity, critical thinking, and problem-solving skills. It serves as a stepping stone for young learners to understand and explore the transformative potential of AI in shaping the future.

Happy learning!

Contents

Conceptual Framework

Module Name: Demystify		
Sessions	**Topics**	**Duration**
Unit 1 What is AI - How does AI work	• What is Artificial Intelligence (AI)? • How is Artificial Intelligence different from Automation? • What are the applications of AI? Where is it used in everyday life? • How does AI work? What are the types of AI?	7 hours
Unit 2 AI & Other Technologies - Domains of AI	• What are the three domains of AI? What are their applications in everyday life? • What is Computer Vision? Where do we use Computer Vision in everyday life?	8 Hours

Unit I

What is AI - How does AI work?

What is AI - How does AI work?	Session +Activity
Summary: In this module, the students are introduced about Artificial Intelligence (AI). They will come to learn difference between Artificial Intelligence and Automation. This module will cover the various applications of AI in everyday life.	
Learning Objectives • To introduce Human Intelligence • To introduce and experience Artificial Intelligence and Automation • Describe how AI plays a role and impacts their day-to-day activities • To learn types of AI	
Learning Outcomes • Understanding the concept of intelligence, both human and artificial • Gaining knowledge about the relationship between human intelligence and artificial intelligence • Experiencing how AI and automation influence daily life and activities • Acquiring awareness about different types of AI and their application	
Key Concepts • Artificial intelligence (AI) relates closely to the notion of developing intelligence or mimicking intelligent behavior in machines • Difference between AI and Automation • Different learning types in AI	

Session 1: What is Artificial Intelligence (AI)?

What is Intelligence?

- What do you know about intelligence?
- Can you name an intelligent person?
- What are some things that they do using intelligence?

(Fill in the blanks)

Can you find out the 3 words related to human intelligence?

- _h_nk
- L_a_n
- S_lv_ P_ob_e_s

Answers:
- Think
- Learn
- Solve Problems

Human Intelligence

Human Intelligence is our mental ability to take decisions, solve problems, and learn new things.

What are some intelligent things that you do?

_____

_____

_____

_____

Can a machine also do these things?

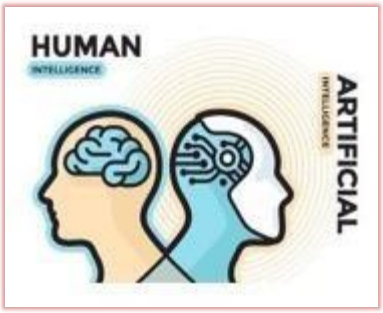
_____

_____

_____

_____

Human Intelligence and Artificial Intelligence



Human Intelligence is our mental ability to take decisions, solve problems, and learn new things.

Similarly,
Artificial intelligence (AI) is a machine's ability to take decisions, solve problems, and learn (like a human being)

What is Artificial Intelligence?

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines, enabling them to perform tasks that typically require human intelligence.

What are some intelligent things that machines do? Share your answers with the class. Let us meet Argo and Marie in Cyberspace and learn more about AI!

- How does Artificial Intelligence (AI) predict where hurricanes will strike, clean a room, charge a car or even play chess?
- Join Marie and Argo in Cyberspace as they learn more about Artificial Intelligence
  https://www.youtube.com/watch?v=HdIppwUJ0f8
  AI uses data like wind speed, moisture, and pressure levels to take a decision

What did you see in the video?

- How do people and robots get out of the way of hurricanes?
  AI helps people and robots to safety by finding out where will the hurricane strike
- How does AI know where will the hurricane strike?
- How does AI take decisions and actions?
  AI takes in a lot information and uses that information to do something useful
- What are some intelligent things that AI can do?
  AI can clean your room, drive a car, and even play chess!
- Can you think of a few more such things?

Discussions

- What do you mean by intelligence?
- What properties in a machine make it intelligent?

Session 2: Automation and Artificial Intelligence

What is automation?

Automation involves utilizing technology, machines, or systems to execute tasks or processes with little to no human involvement. Examples include automatic washing machines, sensor-activated doors, and automated accelerators as shown below.

Let's answer some questions:

Q:1 Are the machines working on their own in automation?

Q:2 How do these machines help humans?

Q:3 Can you name other machines that can work without humans?

Contextual Answers for the Previous Questions:

A:1 Automation is a way to make machines work on their own
A:2 Automatic machines need little or no human help
A:3 Washing Machine makes physical work easy

Understanding the Difference Between Automation and AI

Automation involves performing tasks through pre-programmed rules with minimal human input, focusing on efficiency and consistency. In contrast, AI enables systems to learn, adapt, and make decisions based on data, mimicking human intelligence to solve complex problems.

Automation	Artificial Intelligence
Automation is a way to make machines work on their own 	AI is a way to make machines think on their own 
Automation makes physical work easy for humans – lifting, folding, moving, etc.	AI makes mental work easy for humans – predicting rainy weather, suggesting tasty dishes, etc.
Example: Washing Machine, Shirt folding machine, Printer	Example: Face unlock, Self-driving car, Siri and Alexa

Automation vs Artificial Intelligence

Fill in the blanks

Automation	Artificial Intelligence
Automation is a way to make _____ work on their own	AI is a way to make machines _____ on their own
Automation makes _____ work easy for humans – lifting, folding, moving, etc.	AI makes _____ work easy for humans – predicting rainy weather, suggesting tasty dishes, etc.
Example: 1. _____ 2. _____ 3. _____	Example: 1. _____ 2. _____ 3. _____

Discussions

1. Have you used any automatic machine that helped you do physical work?

2. Have you used any AI that reduced your mental work?
3. What are the key differences between AI and Automation?

Purpose: To Categorize Artificial Intelligence and Automation

It's Fun Time

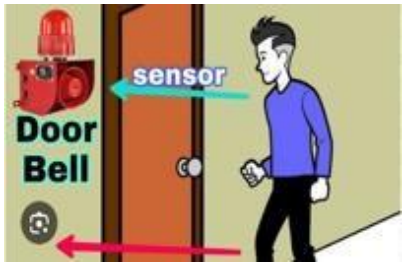
"Identify and categorize the picture frame below. What type of scene or subject matter does it depict, and what style or period of art does it belong to?"

a .....

b .....

c .....

d .....



e .....

f .....

g .....

h .....

i .....

Artificial Intelligence	Automation

Quiz: Artificial Intelligence Vs Automation

1. What is the primary goal of artificial intelligence?
   a) To automate all human tasks
   b) To create systems that can mimic human intelligence
   c) To eliminate the need for human intervention
   d) To replace humans in the workforce

2. Which of the following is NOT a subfield of artificial intelligence?
   a) Data Science
   b) Natural Language Processing (NLP)
   c) Data Entry
   d) Machine Learning

3. What is human intelligence?
   a) The ability to take decisions and solve problems
   b) The ability to learn new things
   c) Both a and b
   d) None of the above

4. Fill in the blank: Intelligence helps humans to _____. .
   a) Sleep better
   b) Solve problems
   c) Forget things
   d) Ignore tasks

5. What is Artificial Intelligence (AI)?
   a) Machines performing physical tasks
   b) Machines simulating human intelligence to make decisions and solve problems
   c) Machines needing constant human intervention
   d) Machines replacing human intelligence completely

6. What is the main objective of automation?
   a) To increase human error
   b) To decrease efficiency
   c) To mechanize repetitive tasks
   d) To require more human intervention

7. Which of the following is an example of automation in finance?
   a) Self-driving cars
   b) Automated billing systems
   c) Recommendation systems
   d) Virtual assistants

8. What does automation aim to achieve in manufacturing?
   a) Increase manual labor
   b) Decrease efficiency
   c) Streamline workflows
   d) Introduce more human errors

9. What is the primary benefit of automation in customer service?
   a) Decreasing accuracy
   b) Reducing efficiency
   c) Improving response time
   d) Increasing manual intervention

10. Which of the following is an example of Artificial Intelligence?
    a) A printer printing a document
    b) A self-driving car navigating traffic
    c) Washing machine cleaning clothes
    d) A refrigerator cooling food

11. Which of the following properties makes AI different from automation?
    a) AI makes machines think like humans
    b) AI requires constant human supervision
    c) AI only performs repetitive tasks
    d) AI doesn't use any data

Answers: 1-b, 2-c, 3-c, 4-b, 5-b, 6-c, 7-b, 8-c, 9-c, 10-b, 11-a

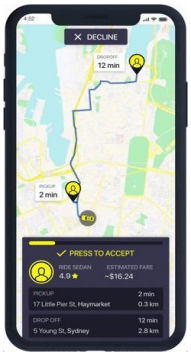
Session 3:
What are the applications of AI? Where is it used in everyday life?

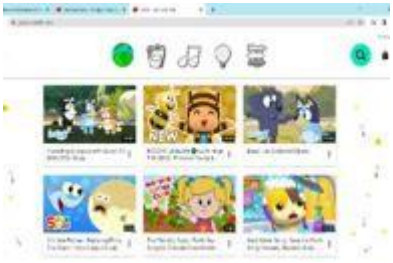
Artificial intelligence (AI) has become deeply integrated into various aspects of everyday life, impacting everything from the way we communicate to how we work and play. Here are some common examples of AI in everyday life!

Activity: Match the following
Match the everyday uses of AI with its correct name

Purpose: this activity is to help students understand the various practical applications of Artificial Intelligence (AI) in everyday life. By matching AI's uses with their corresponding names, students will gain insight into how AI technologies impact various sectors such as healthcare, transportation, entertainment, and more. This activity also encourages critical thinking, enhances problem-solving skills, and fosters a deeper appreciation for the role of AI in shaping modern society.

1. 

2. 

3. 

A.

Recommendation System - YouTube video suggestions

B.

Digital Assistants – Alexa, Siri, etc

c.

Navigation - Google Maps

Answers: 1→B, 2→ C, 3→ A

YouTube video suggestions

Let see how YouTube analyzes a user's watch history to understand their interests and preferences.

- Do you watch videos on YouTube?

  _____

- Which are the videos that appear when you open YouTube?

  _____

- Do the same videos appear when your friends open their YouTube?

  _____

- How do you decide which video to watch out of all the videos on YouTube?

  _____

Let's understand How YouTube's AI Personalizes Your Video Recommendations"

- YouTube hosts millions of videos on its platform
- YouTube's AI keeps a track of the videos that you watch to know your likes and dislike.
- Once you have watched a few videos, the AI can suggest other videos which you might like, based on your interest

Google Maps Navigation

Here's an overview of how Google Maps navigation works:

- Have you ever seen or used a map?

  _____

- How do your parents find new places in your city? A new restaurant,supermarket, or a park?

  _____

- How do they go to such places if they do not know the directions?

  _____

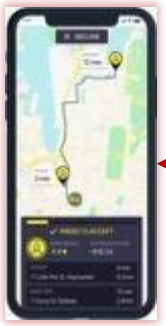
- Does AI help us in going from one place to another?

  _____

How AI in Navigation Apps like Google Maps Enhances Your Travel Experience

- Google maps are maps in our computers and mobile phones
- People usually find new places in the city, like a restaurant, supermarket, or park, by searching on Google Maps. It helps them discover locations, read reviews, and get directions easily.

- If they don't know the directions, Google Maps can guide them with step-by-step directions, helping them reach any destination easily.
- Google Map's AI gives us information about traffic on the roads and duration of travel. It can also show us the shortest path to reach the destination!



Navigation- Maps
Eg Google Maps

G(2020, February 15)*RideFair GIF*GIPHYhttps://giphy.com/gifs/sydney-perth-ridefair-XzpbXOsSrZj00pmoMq

Digital Assistants – Alexa, Siri, Google Assistant, etc.

- How are you able to talk to people around you?
- Can machines also listen to us and make sounds?
- Have you ever talked to a computer or a robot?
- What would you like to talk about with a computer or a robot?

How AI Powers Digital Assistants like Alexa, Siri, and Google Assistant

- Human beings make sound and listen to each other while talking
- Machines use speaker to make sound, and listen to us through microphones
- Digital Assistants use AI to understand human language and talk to us, in the same way we talk to each other
- They can tell us a joke, answer a question, and even play music

Digital Assistants – Alexa, Siri, Google Assistant, etc.

Let's look at some interesting AI Applications

Interesting AI applications

Self-Driving Cars (Driverless Cars)

- Have you ever sat in a car?

  _____

- Is there anyone who drives a car in your family?

  _____

- What are the different things which drivers do while driving a car?

  _____

- Do you think cars can drive on their own, without a human driver?

  _____

How self-driving car works?

These cars can drive safely on their own, with little or no human help. A Self-Driving Car's AI sees the world through a camera, and understands the movement of people and vehicles, and traffic signals, just like a human driver does.

AI assisted fitness app

- Do you exercise? Which is your favorite exercise?

  _____

- Is there any exercise that you find difficult?

  _____

- Do you make mistakes while performing difficult or new exercises?

- Who tells you the correct way to do it?

- How do they get to know that you need help?

PlayKids(n.d.)Kids Stretching GIF [GIF]Giphyhttps://giphy.com/gifs/playkids-children-junior-juniorонthejob-3ornk8qaF9ytl9zmY8

How it helps?

- AI fitness apps can help us in exercising
- These apps use AI to identify human body shape using a camera
- They can guide us to the correct body shape for each exercise

GIF source-On-device, Real-time Body Pose Tracking with MediaPipe BlazePose(2020, August 13)Google AI Blog https://ai.googleblog.com/2020/08/on-device-real-time-body-pose-tracking.html

AI in Music

- What kind of music do you like?

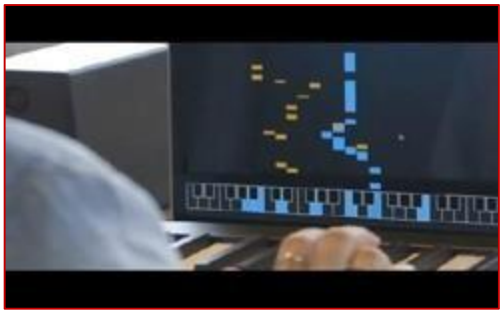
- Do you play any musical instrument?

- How do we decide which notes to play and in what order? Did someone teach us that?

LuxoVeggieDude9302(2018, November 20)PBS Kids GIF - Music Fun For Everyone! [GIF]Deviant Art https://www.deviantart.com/luxoveggiedude9302/art/PBS-Kids-GIF-Music-Fun-For-Everyone-773330016

Let's understand how AI plays music with us!

- AI Duet listens to the notes played by us and based on all the music it has heard in the past, and responds by playing its own notes



A.I Experiments: A.I Duet (2016, November 15) YouTube https://www.youtube.com/watch?v=0ZE1bfPtvZo&t=122s

Activity: AI Duet

The app likely offers a vast library of songs and albums that users can stream on-demand.

Purpose: The purpose of the AI Duet activity is to help students understand how artificial intelligence can be integrated into music creation. By engaging with AI-powered tools, students will explore the interaction between human input and AI-generated music, showcasing the potential of AI in enhancing creativity and music production.

Go to this link: https://experiments.withgoogle.com/ ai/ai- duet/view/

Step-1: Open the AI Duet App: Go to the AI Duet website or open the app on your device.

Step-2: Start Playing: Once the app is open, you'll see a virtual piano. Click on the piano to start playing!

Step-3: Interact with the AI: As you play, the AI will listen to your music and respond with its own melody. Keep playing and see how the AI reacts.

Step-4: Experiment with Different Notes: Try playing different notes and rhythms to see how the AI adapts to your music.

Step-5: Create Your Duet: Play along with the AI to create a duet (a musical performance with two parts). You can take turns playing and listening.

Step-6: Enjoy the Music: Once you're happy with your duet, enjoy listening to how you and the AI worked together to create music!

Step-7: Save or Share: If the app allows, save your duet or share it with your friends or teacher.

Learning Outcomes:

- Students will understand the role of AI in music composition and performance.
- Students will learn how AI can analyze and generate music based on user input.
- Students will gain hands-on experience with AI-driven music applications, exploring their functionality and features.

AI in Art: AI-Assisted Creativity Tools

- Do you enjoy creating art? What's your favorite medium or technique?

  _____

- Is there any form of art that you find challenging?

  _____

- Do you make mistakes while trying new art techniques?

  _____

- Who helps you learn the correct way to create art?

  _____

- How do they know you need help with your artwork?

  _____

How AI Helps in Art:

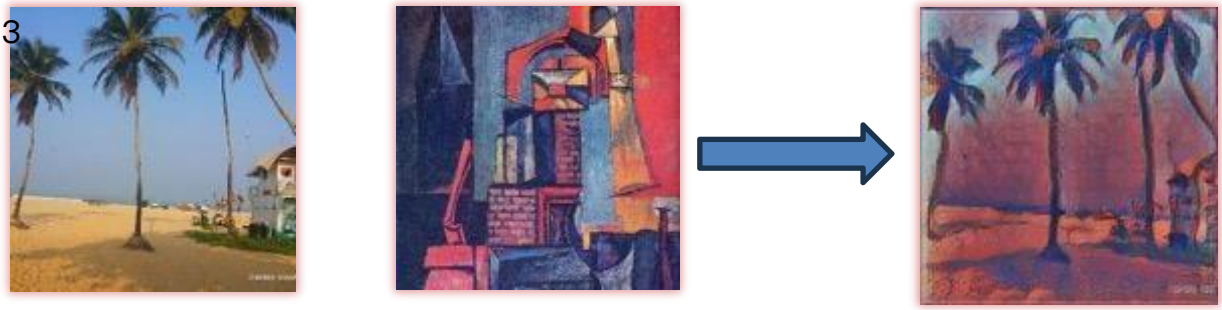
- AI-powered art apps can assist in the creative process.
- These apps use AI to analyze the shapes, colors, and patterns in your artwork.
- They can suggest improvements or guide you in creating certain styles, ensuring your artwork is more aligned with your creative goals.

Activity: Stylize Image

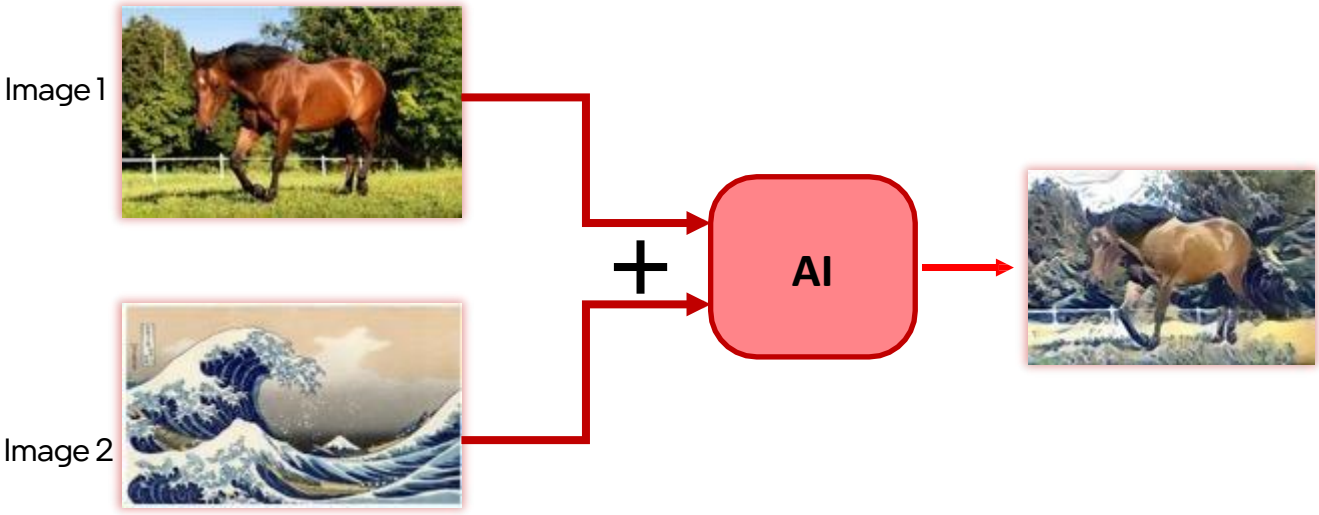
Purpose: The purpose of the "Stylize Image" activity is to introduce students to the concept of neural style transfer, a technique in AI that allows one image to adopt the artistic style of another. Through this hands-on activity, students will explore how AI can blend the content of one image with the style of another, enabling them to experiment with creativity and understand the practical applications of AI in art and design. This activity helps students develop an appreciation for AI's role in transforming visual art while enhancing their problem-solving and creative thinking skills.

1. Look at image 1 and image 2
2. If we add image 1 and image 2 together, will the result be image A or image B?

Image1 + Image2 Image 3



Interesting AI applications One more Example



*Towards Data Science*Mediumhttps://towardsdatascience.com/neural-style-transfer-tutorial-part-1-f5cd3315fa7f

Try it out yourself: https://reiinakano.com/arbitrary-image-stylization-tfjs/

Step-1: Choose Image 1 – a content image – from the dropdown menu, say'Chicago' Choose Image 2 – a style image – from the dropdown menu, say 'Seaport'

1. Click on Stylize
2. Go ahead and try out different combinations. You can even upload images from your own computer!

By the end of this activity, learners will:

- Understand AI in image processing: Learn how AI merges content and style using computer vision.
- Explore creativity with AI: Experiment with different image combinations to create unique artwork.
- Develop digital skills: Gain hands-on experience with AI tools for image manipulation.
- Appreciate AI's role in design: Understand how AI simplifies artistic processes and enhances creativity.

Key Take aways

In this module, we learnt about:

1. **Human Intelligence**: Understanding how humans use their cognitive abilities to think, learn, and solve problems.
2. **Artificial Intelligence (AI)**: Learning about the creation of machines that can simulate human intelligence to perform tasks like reasoning, learning, and problem-solving.
3. **Differences between AI and Automation**: Recognizing that AI involves decision-making and learning, while automation focuses on performing repetitive tasks without the need for learning.
4. **Applications of AI**: Exploring how AI is applied in various fields like healthcare, entertainment, education, and transportation to improve efficiency and create innovative solutions.

Reflection

How does AI interact with our world?

What can be different areas in which we can divide AI based on its interaction?

Quiz: AI-driven solutions

1. What is artificial intelligence (AI)?
   a. The study of natural intelligence exhibited by humans and animals
   b. A branch of computer science that deals with programming languages
   c. The simulation of human intelligence processes by machines, especially computer systems
   d. Noneof the above

2. Which of the following is an example of AI-driven solution in everyday life?
   a. Weather forecasting
   b. Using a calculator
   c. Playing video games
   d. All of the above

3. What is the primary goal of AI-driven solutions in healthcare?
   a. To replace human doctors andnurses
   b. To improve patient outcomes and streamline healthcare processes
   c. To increase healthcare costs
   d. To make healthcare less accessible

4. Which AI technology allows machines to understand and interpret human language?
   a. NaturalLanguage Processing (NLP)
   b. Machine Learning (ML)
   c. Computer Vision
   d. Robotics

5. What do recommendation systems use AI for?
   a. Identifying potential risks in financial markets
   b. Recommending products or content based on user preferences
   c. Analyzing medical imagesfor disease diagnosis
   d. Controlling autonomous vehicles

6. What does AI Duet allow users to do?
   a. Create music by playing a piano with an AI
   b. Listen to songs on-demand
   c. Learn to play instruments
   d. Design musical instruments

7. What do chatbots use AI for?
   a. Identifying objects in images
   b. Recognizing speech
   c. Conversing with users in natural language
   d. Playing video games

8. Which AI technology allows machines to understand and interpret visual information from the environment?
   a. Natural Language Processing (NLP)
   b. Predictive Analytics
   c. Computer Vision

d. Robotics

9. What kind of information does Google Maps provide when giving directions?
   a. Name of the nearest restaurant
   b. Traffic data and shortest travel path
   c. The weather forecast
   d. The nearest gas station

10. Which of the following statements about AI-driven solutions is true?
    a. AI solutions can onlyperform tasks that humans are already capable of doing.
    b. AI solutions can analyze large datasets and identify patterns that may not be obvious to humans.
    c. AI solutions are always completely error-free and do not require human supervision.
    d. AI solutions cannot adapt or learn from new data or experiences.

Answers:

1- c), 2- d), 3- b), 4-a), 5-b), 6-a), 7-c), 8-c), 9-b), 10-b)

UNIT - II

AI and Other Technologies-Domains of AI

AI Domains & Other Technologies	Session + Activity
Summary: In this module, students will be introduced to the domains of AI, with a focus on Computer Vision. The module will also explore the practical applications of these domains, providing a deeper understanding of their role in the broader field of Artificial Intelligence.	
Learning Objectives • To introduce the various domains of AI. • To provide an introduction to and hands-on experience with Computer Vision.	
Learning outcomes • Understanding the concept of AI domains and their significance • Experiencing Computer Vision, a specific AI domain, and its applications • Recognizing how AI influences and impacts day-to-day activities	
Key Concepts ● Introduction to Computer Vision & its AI Use Cases in Everyday Life	

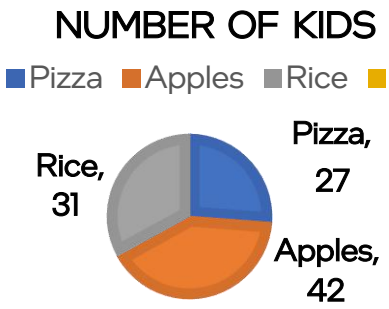
Session 1: Domains in AI

The domains of artificial intelligence (AI) refer to the various areas or fields where AI technologies and techniques are applied to solve specific problems or tasks.

Look at these photos

How do you see the world?

How do you talk to others?

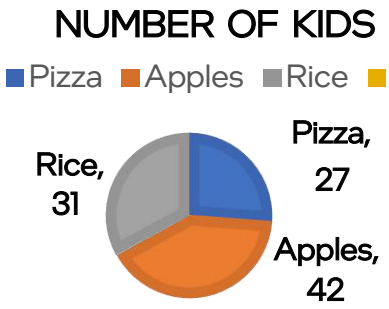


How many kids like apples?

Look at these photos

We see the world through the vision

we talk to others by speaking and understanding the same language



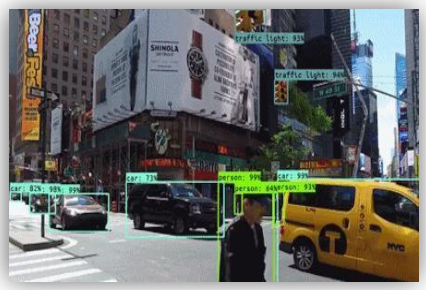
By looking at the pie,we can say that 42 kids like apples

Just like us, we also want our machines to be able to see things, understand language, and make sense of numbers. This has resulted in 3 domains in AI – 3 broad fields where AI is being used.

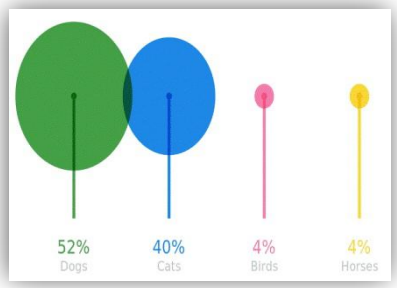
AI operates in three main domains, each using specific data types:

1. **Computer Vision:** Uses image and video data (pixels, matrices) to help machines "see" and interpret visual information like objects and faces.
2. **Natural Language Processing (NLP):** Works with text data, converting it into numerical formats to enable machines to understand and process human language.
3. **Statistical Data:** Utilizes structured numerical data and unstructured data to allow machines to learn from patterns and make predictions.

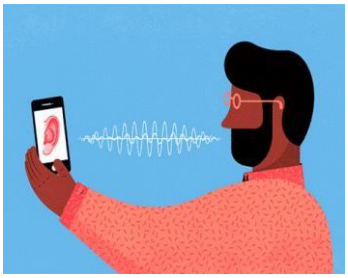
Three domains in AI



Computer vision
The ability of machines to see the world



Natural Language Processing The ability of machines to understand human language



Statistical Data The ability of machines to understand numbers

Activity: Match the following

Purpose: The purpose of this activity is to help students understand the relationship between AI domains and the types of data they process.

Match the domains in AI with the data that it can understand

A | Natural Language Processing

B | Statistical Data

C | Computer vision

Solution

1. 

2. 

3. 

A. Natural Language Processing

B. Statistical Data

C. Computer Vision

Why are there different domains?

Depending on the type of data, we can divide AI into different domains.

Visual Data

Computer Vision

- **Uses cameras**
- **Contains images & videos**
- **Example – Images of cats, videos of moving vehicles on a road**

Textual Data

Natural Language Processing

- **Uses keyboards, mic, and scanner**
- **Contains spoken or written language**
- **Example – Text messages, voice commands**

Numerical Data

Statistical Data

- **Uses machines, sensors, and people**
- **Contains numbers**
- **Example – Age of people in a city, marks scored in an exam**

Look at the sample data and answer the questions!

Computer Vision

1. Which color cars are there?
2. Which car color is the least common?

Natural Language Processing

I am hungry. It's 3:00 PM and I am half an hour late for my lunch. I have salad in my lunch today.

1. What is there for lunch?
2. At what time do they usually have lunch?

Statistical Data

1. Which is the least popular sport?
2. What is the most popular sport?

What is Computer Vision?

Let's guess the names of these fruits!

Tastes sour

_____

Rhymes with Teach

_____

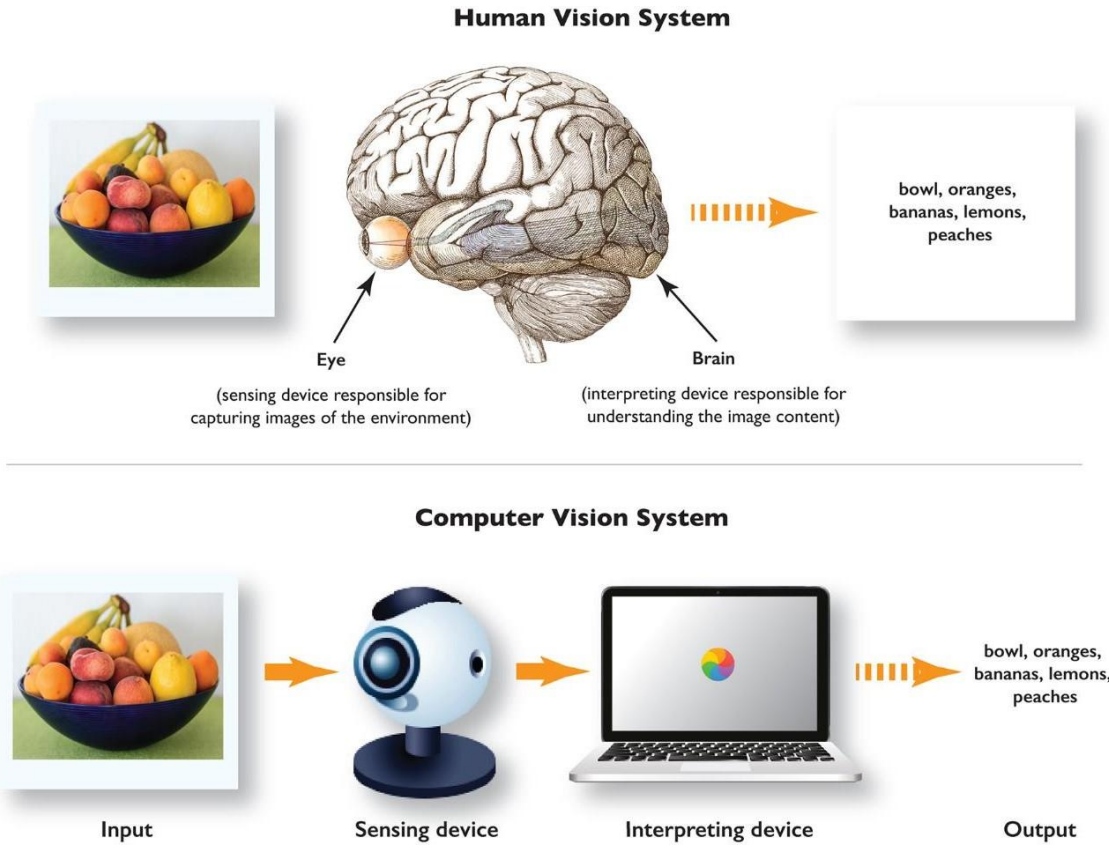
A bunch of them is called a hand

_____

- How are you able to see the images? Our eyes allow us to see things
- How do you understand what is shown in the images? Our brain helps us understand what we see
- Can machines also see and understand the world like we do?

_____

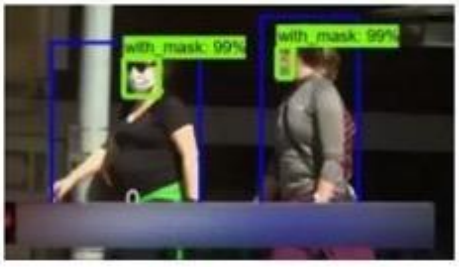
Human Vision v/s Computer Vision



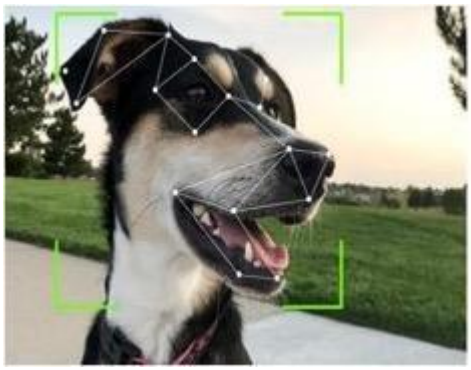
Computer Vision is a domain of AI which lets machines see and understand images and videos, the same way a human being does.

How does Computer Vision work?

- Computer Vision excels at recognizing specific objects or patterns it is trained to detect.
- When instructed to identify something, computers can often see and analyze it more accurately than humans.
- With visual capabilities, computers can make quicker and more accurate decisions in visual tasks, without experiencing fatigue.



Why is Computer Vision important?

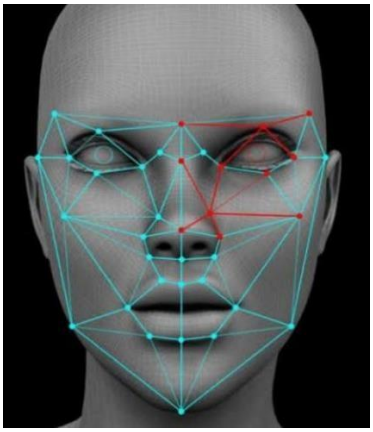


1. Computers learn from looking at a large number of images and videos - thousands of images of dogs
2. They identify patterns in the images and videos - no. of eyes, ears, nose, limbs, length of tail, body shape, etc. in dog images.
3. When a new image or video comes up, computers compare it to the identified patterns to understand

What are the patterns that you identify with a dog? Can you name at least 3 things which help you recognize dogs?

Applications of Computer Vision around us

Facial Recognition

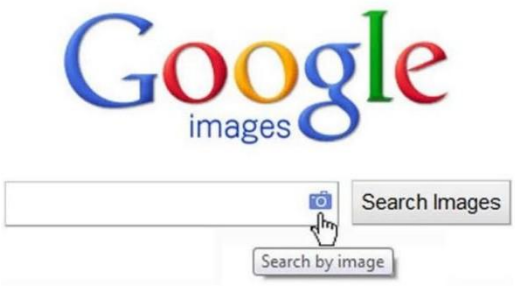


With the advent of smart cities and smart homes, Computer Vision plays a vital role in making the home smarter. Security being the most important application involves use of Computer Vision for facial recognition. It can be either guest recognition or log maintenance of the visitors. It also finds its application in schools for an attendance system based on facial recognition of students.

Face Filters

The modern-day apps like Instagram and snapchat have a lot of features based on the usage of computer vision. The application of face filters is one among them. Through the camera the machine or the algorithm is able to identify the facial dynamics of the person and applies the facial filter selected.

Google's Search by Image



The maximum amount of searching for data on Google's search engine comes from textual data, but at the same time it has an interesting feature of getting search results through an image. This uses Computer Vision as it compares different features of the input image to the database of images and give us the search result while at the same time analysing various features of the image.

Quiz: AI-domains

1. What is the purpose of Computer Vision in AI?
   a. To enable machines to hear and understand sounds
   b. To enable machines to see and understand images and videos
   c. To enable machines to understand human emotions
   d. To allow machines to interact with humans in natural language

2. How does Computer Vision identify objects, like a dog, in images?

   a. By identifying patterns in the image such as eyes, ears, and body shape
   b. By identifying patterns in the image such as eyes, ears, and body shape
   c. By interpreting the text in the image
   d. By recognizing the color and brightness of the image

3. Why are there different domains in AI?

   a. Because AI is only used for image recognition
   b. Different types of data require different AI techniques
   c. Because AI can only solve simple problems
   d. To make AI more complex and less efficient

4. Which of the following is NOT one of the main domains of AI?

   a. Computer Vision
   b. Natural Language Processing
   c. Quantum Computing
   d. Robotics

5. Which domain of AI is concerned with enabling machines to understand, interpret, and generate human language?

   a. Machine Learning
   b. Computer Vision
   c. Expert Systems
   d. Natural Language Processing

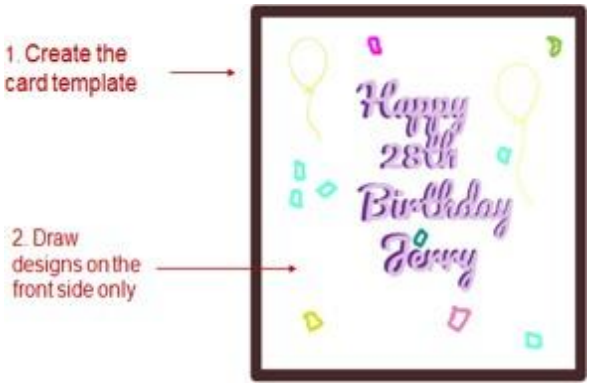
Answers: 1-b, 2-a, 3-b, 4-c, 5-d

Activity 1: Birthday Card

Purpose: Using Auto-draw AI for making birthday cards helps create personalized, visually appealing designs quickly and easily, adding a thoughtful touch to celebrations.

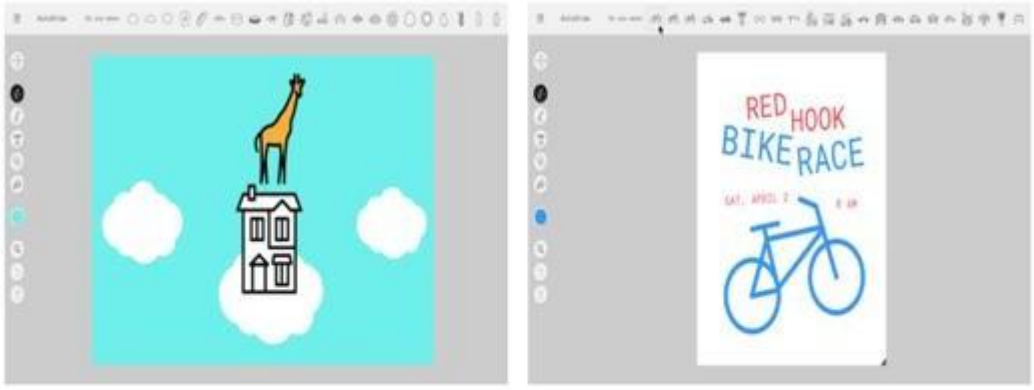
This activity provides pre-designed templates or layouts that can be customized with your preferred text, images, and colors. This can be helpful for those who are not skilled in graphic design or simply want a quick and easy way to create a visually appealing birthday card.

Example of a Birthday Card



Step 1: Go to

https://www.autodraw.com/

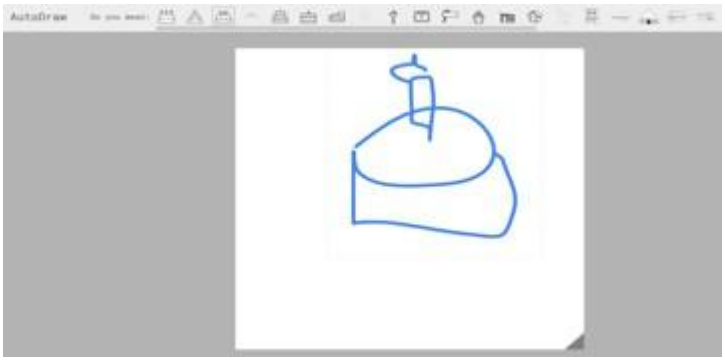


AutoDraw is a new kind of drawing tool. It pairs machine learning with drawings from talented artists to help everyone create anything visual, fast. There's nothing to download. Nothing to pay for. And it works anywhere: smartphone, tablet, laptop, desktop, etc.

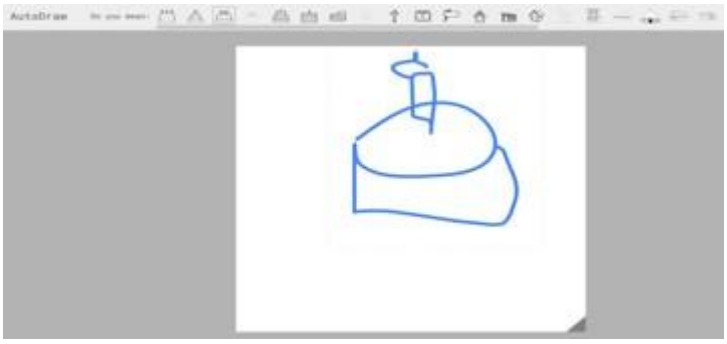
Step 2: Create a blank template for the birthday card

Step 3: Use the "AutoDraw" tool to design your card

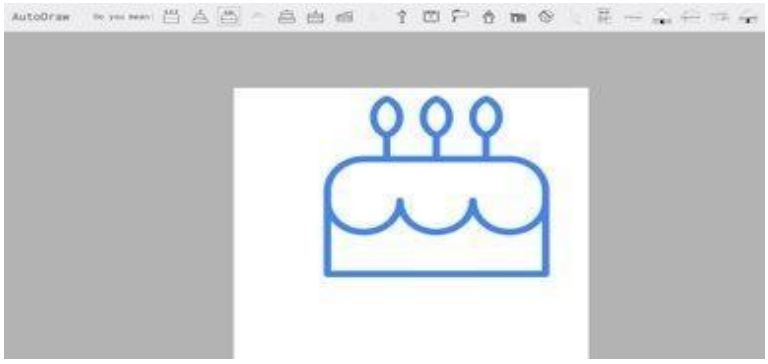
Step 4: Draw a cake using the "AutoDraw" tool



Step 5: Click and try out the suggestions by AutoDraw!



Step 6: Design the rest of the card using AutoDraw!



By the end of this activity, learners will:

- Understand AI in creative tasks: Recognize how Auto-draw AI simplifies and enhances design.
- Develop digital design skills: Create personalized and visually appealing birthday cards.
- Appreciate AI's role in daily tasks: Understand how AI saves time and improves efficiency.
- Foster creativity: Add unique elements and personal touches to designs.

Let's Explore
Innovative AI-Powered Activities

In this segment, students will embark on hands-on, innovative AI-driven activities that combine creativity with technology. These exercises are designed to develop their digital skills and foster a deeper understanding of how AI can enhance personal expression and communication.

1. Greeting Card Challenge

- **Objective:** Design a card for a specific occasion (e.g., Diwali, Christmas, or Friendship Day) using Auto-draw AI.
- **Steps:** Students will brainstorm designs, use Auto-draw to create their cards, and add personal messages.
- **Outcome:** Develop creativity, digital skills, and personalization techniques.

2. AI Poster Making

- **Objective:** Create an awareness poster (e.g., "Save Water" or "Stop Pollution") using AI design tools.
- **Steps:** Students will use Auto-draw or similar tools to combine art with informative content.
- **Outcome:** Learn to communicate ideas visually with AI's help.