

DEPARTMENT OF INFORMATION TECHNOLOGY

Concept Centered Video Pedagogy

Faculty: Dr. G. A. Senthil

Course: Artificial Intelligence and Machine Learning

Sem: IV

Academic Year: 2022–2023

Innovation Method: Concept Centered Video Pedagogy

Topic: Decision Tree Algorithm in Machine Learning

Date: 16.02.2023

No of Students Participated: 47

1. Description of the Innovative Method

Concept Centered Video Pedagogy involve students creating short explainer videos on selected AI/ML topics. Instead of traditional written assignments, students demonstrate understanding through visual, audio, and creative storytelling formats. Students use tools like Canva, Power Director, PowerPoint animations, and mobile editing apps to develop content.

This method encourages active learning, promotes deeper conceptual understanding, enhances communication skills, and provides a platform for students to express technical knowledge creatively.

The teacher evaluates videos based on clarity, technical accuracy, creativity, and communication effectiveness.

2. Topic Selected for Video Assignment

Students were instructed to create a 3–5 minute explainer video covering:

- What is a Decision Tree?
- Components (Root node, internal nodes, leaf nodes)
- Splitting criteria (Gini Index, Entropy, Information Gain)
- Example of a simple dataset and decision-making flow
- Advantages and limitations

3. Objectives of the Innovation Method

1. To help students develop a deeper conceptual understanding through self-explanation.
2. To foster creativity, visualization skills, and effective technical communication.

3. To encourage students to simplify and teach complex AI/ML topics.
4. To improve digital content-creation skills relevant to industry expectations.
5. To promote collaborative learning when videos are made in small groups.

4. Implementation Procedure

Step 1: Topic Allotment

Students were provided a list of AI/ML topics such as Decision Trees, Naive Bayes, Regression models, KNN, Neural Networks, etc. Each student/group chose one topic.

Step 2: Guidelines for Video Creation

Faculty provided instructions on:

- Video duration (3–5 minutes)
- Structure of explanation
- Use of diagrams/animations
- Accuracy of technical content
- Copyright-free or original media
- Submission format (MP4)

Step 3: Content Preparation

Students researched the topic, created storyboards, collected visuals, and prepared scripts. They used animation tools, hand-drawn diagrams, or screen recordings to explain the concept.

Step 4: Video Production

Students recorded voiceovers, edited visuals, added transitions, and packaged the final video. Tools used included:

- Canva
- PowerPoint animations
- Filmora
- VN Video Editor
- OBS screen recording

Step 5: Classroom Presentation

Students presented their videos in class.

Faculty and peers provided feedback on clarity, creativity, and conceptual correctness.

Step 6: Evaluation and Reflection

Videos were assessed based on:

- Understanding of AI/ML concept
- Presentation skills

- Creativity in visualization
- Accuracy of explanation
- Overall quality



Participation of Students in Concept Centered Video Pedagogy for AIML on 16.2.2023

5. Outcomes of the Innovation Method

- Students communicated technical concepts more clearly and confidently.
- Creativity and digital content creation skills significantly improved.
- Complex ML algorithms became easier to understand through visual explanation.
- Students gained experience in teaching and storytelling—crucial skills in the IT industry.
- Peer learning increased as students watched and discussed each other's videos.
- Classroom engagement improved as students were actively involved in content creation.

6. Sample Student Deliverables (Examples)

- Animated flowchart explaining how Decision Trees split data
- Screen recording showing entropy calculations
- Real-life analogy video (e.g., choosing a movie using a decision tree)
- Visual summary slide explaining advantages and limitations

7. Conclusion

The Concept-Based Video Assignment proved to be an effective pedagogical innovation in the Artificial Intelligence and Machine Learning course. Students demonstrated improved understanding, creativity, and communication skills. Complex topics like Decision Tree algorithms became more approachable through visualization and self-explanation. This method supports outcome-based education and builds critical 21st-century skills such as digital literacy, collaboration, and conceptual clarity.

List of students Attended – II- Year

S.NO	REGISTER NO	STUDENTS NAME
1.	312821205001	Aravind R
2.	312821205002	Aravinth R
3.	312821205003	Ashika Jubi S
4.	312821205004	Dharshan K
5.	312821205005	Dinakaran Sa
6.	312821205006	Gokulakrishnan M
7.	312821205007	Gowtham G
8.	312821205008	Gowtham M
9.	312821205009	Harini V
10.	312821205010	Jagadeesh D
11.	312821205011	Jerlin Ida J
12.	312821205012	Jeshina K
13.	312821205013	Karthikeyan S
14.	312821205014	Keerthana V
15.	312821205015	Kirubanithi S
16.	312821205016	Lakshmi Priya P
17.	312821205017	Mahima Sree S
18.	312821205018	Mohamed Alifdeen R
19.	312821205019	Mohamed Ruwaid A
20.	312821205020	Monesha G
21.	312821205021	Nandha Kumar A
22.	312821205022	Nanthini Priya R
23.	312821205023	Neha M
24.	312821205024	Nethaji M
25.	312821205025	Nishaanth S

26.	312821205026	Pradeep Kumar Y
27.	312821205027	Prashanth B
28.	312821205029	Preethi M
29.	312821205030	Premlatha S
30.	312821205031	Pugazhenth D
31.	312821205032	Rahul N
32.	312821205033	Ramkumar K S
33.	312821205034	Ramya Devi P
34.	312821205035	Rexlin Felix S
35.	312821205036	Rukmangathan D
36.	312821205037	Santhosh G
37.	312821205038	Saran S K
38.	312821205040	Sasikumar R
39.	312821205041	Silambarasan M
40.	312821205042	Sivaranjini R
41.	312821205043	Siva Saradhe R
42.	312821205045	Sri Ranjani K
43.	312821205047	Tarun S
44.	312821205048	Venu Aravind M
45.	312821205301	Karan Kumar B
46.	312821205302	Kotipatruni Tirumala Rao
47.	312821205303	Vishal B



Faculty Incharge



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