# Overview of The MediaEval 2025 Predicting Movie and Commercial Memorability Task

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Abstract

This paper presents the 2025 edition of the MediaEval Predicting Movie and Commercial Memorability task, which marks a shift in scope from short, out-of-context clips to long-form content. This edition introduces three new datasets: the Movie Memorability Dataset with 660 annotated excerpts; the Essex EEG Movie Memory dataset, which features electroencephalography (EEG) signals from 27 participants who watched a subset of those movie excerpts; and VIDEM, a collection of 424 annotated commercial videos. The task is structured around two subtasks, movie memorability and commercial memorability, each comprising two challenges. For movie memorability, participants predict long-term memorability scores from video content and detect individual recall using EEG data. For commercial memorability, the challenges focus on predicting both video memorability and brand recall. This paper outlines the task setup, datasets, extracted features, and evaluation procedures.

## 1. Introduction

Memorability, referred to as the likelihood that a stimulus will be retained in memory over time, plays a crucial role across a wide range of domains, from media and education to marketing and artificial intelligence. This concept is central to many real-world applications: filmmakers aim to create stories with lasting emotional impact, advertisers seek to enhance brand recall, educators strive to design engaging content, and researchers in artificial intelligence and cognitive science work to model and predict human memory. This shared interest underscores the value of predictive models capable of estimating what people are likely to remember.

The MediaEval Predicting Video Memorability task has made significant contributions to advancing the study of memorability within multimedia research. Across six editions [1, 2, 3, 4, 5, 6], participants have investigated the factors that influence the short- and long-term memorability of short-form videos, applying a diverse range of visual, auditory, textual, and multimodal features to develop predictive computational models. Recent editions have also included electroencephalography (EEG)-based detection of memory encoding, enabling subject-level memory analyses. Building on the lessons learned in earlier editions, the 2025 challenge extends the task to new application domains, including movie excerpts and commercial videos. This year, the task

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features the established video memorability prediction subtask, an EEG-based recall prediction subtask, and a newly introduced challenge on brand memorability. This paper presents the overall structure of the 2025 MediaEval Predicting Movie and Commercial Memorability task, detailing its subtasks, associated challenges, datasets, and evaluation procedures.

## 2. Related Work

The impressive capacity of humans to encode and recall meaningful visual information [7] has attracted wide interdisciplinary interest. In neuroscience, research focuses on identifying which brain regions, neural signals, and inter-regional interactions are involved in memory formation, often using functional magnetic resonance imaging (fMRI) or EEG [8, 9]. From a computer vision perspective, efforts aim to uncover the visual and semantic properties that drive image and video memorability [10, 11, 8, 12]. Predictive models have evolved significantly through the advent of Transformer architectures [13, 14], generative approaches [15], and multimodal large language models [16, 17].

The MediaEval Predicting Video Memorability task has played a key role in advancing this research in recent years, using short-form videos annotated through memory-based experiments [6]. However, recent editions have shown a plateau in predictive performance and limited generalisation across datasets. These observations motivate a shift in focus toward new domains such as cinema and advertising, and toward studying longer, culturally rich content. Persistent challenges include the limited interpretability of complex black-box models and their weak generalisation across sources.

## 3. Task Description

Building on previous editions, this year the focus expands to longer videos and shifts toward specific domains—namely, movies and commercial videos. To address this, we introduce two domain-specific subtasks: Movie Memorability (Subtask 1) and Commercial Memorability (Subtask 2), each with its own distinct characteristics. These are described in detail below.

### 3.1. Subtask 1: Movie Memorability

The objective of this subtask is to investigate long-term memorability of movie excerpts. It consists of two challenges: 1. *How memorable is this movie excerpt? (Prediction)*, in which participants are tasked with developing and evaluating systems that predict the long-term memorability scores of movie clips using the development set of the Movie Memorability dataset, including raw videos and pre-computed feature, and 2. *Is this person familiar with this video? (EEG-based recall detection)*, which focuses on predicting whether a viewer recalls a video excerpt from a previously watched movie, based on their EEG signals using the development split of the Essex EEG Movie Memory dataset, which is derived from the Movie Memorability dataset. For EEG-based recall detection, participants must rely solely on the provided EEG-derived features and must not use any information from the videos themselves.

### 3.2. Subtask 2: Commercial Memorability

This subtask examines the long-term memorability of commercial videos. It introduces the novel Video Effectiveness and Memorability (VIDEM) dataset, which includes raw video clips, pre-computed features, and annotations for both video and brand memorability. Two challenges

are defined: 1. *How memorable is this commercial video? (Prediction)*, in which participants must predict the long-term memorability scores of commercial videos, and 2. *Can you predict the brand memorability? (Prediction-Brand)*, where the task is to predict how likely viewers are to remember the brand associated with a given commercial.

## 4. Datasets

This edition introduces three datasets not previously explored within the context of the MediaEval Predicting Video Memorability task: the Movie Memorability Dataset [18] and the Essex EEG Movie Memory dataset (EEMMD) [19, 20] for Subtask 1, and the Video Effectiveness and Memorability Dataset (VIDEM) [21] for Subtask 2. The released data includes pre-computed feature representations to support participants in developing predictive systems. These include: (i) image-level features such as AlexNetFC7, HOG, HSVHist, RGBHist, LBP, VGGFC7, DenseNet121, ResNet50, and EfficientNetB3; and (ii) video-level features such as C3D. For Challenge 1.2, EEG-based features are provided. These include ERPs (event-related potentials, i.e., EEG amplitudes measured at the onset of each video) and ERSPs (event-related spectral perturbations, representing time-frequency features across the full duration of the video).

### 4.1. Movie Video Memorability

The Movie Memorability Dataset [18] is a collection of 660 movie excerpts sourced from 100 Hollywood-like films accompanied by ground-truth files, designed to evaluate the ability to recognise brief movie clips weeks to years after initial exposure. Without undergoing any prior learning phase, 104 participants were shown various clips, some of them were from films participants had previously watched and others entirely new. Participants were next asked to indicate whether they recalled having seen each specific excerpt.

For Challenge 1.2, the EEMMD [20, 19] will be provided, comprising EEG data collected during the viewing of a subset of these clips. EEG signals were recorded from 27 participants as they watched selected excerpts, including both familiar and unfamiliar movies. Following each clip, participants reported whether they remembered seeing it before. The resulting dataset includes 3,484 epochs of EEG data, each comprising 32 channels. Of these, 2,122 correspond to unrecognised clips, while 1,362 were reported as remembered.

The Movie Memorability Dataset will be employed in Subtask 1 of the task. For Challenge 1.1, the official partition consists of 521 videos in the development set and 139 in the test set. For Challenge 1.2, data from each participant is divided at the epoch level into development (80%) and testing (20%) subsets.

### 4.2. Video Effectiveness and Memorability Dataset

The VIDEM dataset [21] focuses on video and brand memorability in commercial advertisements, as well as a selection of educational and explanatory videos. It consists of 424 commercial videos published on YouTube between June 2018 and June 2021, with durations ranging from 7 seconds to 94 minutes. Regardless of the total length, users watched up to the first minute of each video.

The dataset includes long-term video and brand memorability scores, measured 24–72 hours after participants viewed the clips by a pool of 1,403 participants. Each sample includes metadata such as title, description, view count, and duration, along with behavioural statistics such as the number of likes and dislikes, views, and engagement rate. VIDEM provides 339 samples as a development set and 85 samples as a test set as the official partition for Subtask 2.

## 5. Evaluation

For both subtasks, each team is allowed to submit up to five runs per challenge. One of these must use only the official memorability data provided. The remaining four may incorporate external data for training and validation as a form of data augmentation. For memorability score prediction (Challenges 1.1, 2.1 and 2.2), the main evaluation metric is the Spearman Rank Correlation Coefficient (SRCC, $\rho$). For EEG-based recall prediction in Challenge 1.2, the official metric is the Area Under the Receiver Operating Characteristic Curve (AUC).

## 6. Conclusions

This paper introduces the 2025 edition of the MediaEval Predicting Movie and Commercial Memorability task. Participants are challenged to develop predictive systems for both video and brand memorability, as well as EEG-based recall, using movie excerpts and marketing-related videos. The task seeks to advance understanding of human memory and guide technologies for media literacy, informing future memory modeling and uniting multimedia, cognitive science, and neuroscience research.

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