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CLIPSUM: VIDEO ANALYZER AND SUMMARIZER

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ABSTRACT

Video content online has gone exponentially increased. The process of separating hours of footage to produce a detailed and derived information is inefficient and very time-consuming. This is where Clipsum comes in, a web application that is meant to process inputted video URLs and generate a summarized version along with the key points. The Clipsum platform uses highly advanced NLP techniques and machine learning algorithms while processing video transcriptions, gathering compact summaries. The paper outlines the design, development, and approach taken to provide an easy and accurate establishment of the Clipsum platform. Results thus far indicate that Clipsum dramatically reduces the time spent consuming video content without sacrificing the integrity of information presented.

KEYWORDS—*Video Summarization, Natural Language Processing, Machine Learning, Web Application, Video Key Points Extraction.*

INTRODUCTION

We present Clipsum, a web-based application targeted toward the goal of making the process of consuming and understanding video content easy. Clipsum can accept a video link as input and provide concise text summarization with key points that summarize the bottom line. Clipsum exploits modern-day technologies, such as NLP, video

In this paper, we outline the underlying architecture and several design decisions behind Clipsum along with the technical methodologies that power it. Along the way, we use a series of performance evaluations to illustrate the simplicity and efficacy of its use.This paper presents a solution that allows individuals to input their symptoms, receive a list of potentially related diseases, and engage directly with medical professionals through a real-time chat interface. This dual approach of AI-based disease prediction and live medical consultation not only expedites diagnosis but also ensures personalized treatment recommendations.

EASE OF USE

A. Content Input and Summary Generation

Users can add content in the form of YouTube video uploads, PDFs, text documents, and notes. Clipsum's interface is intuitive, allowing users to input their content without a hitch. Our AI-based tool will automatically process the content for them to produce concise summaries and key takeaways. The model uses powerful NLP techniques such that summaries are always accurate and relevant within the context of the source material.

B. Dynamic Editing and Customization

Once the summaries are generated, users can easily modify and personalize them to suit their learning preferences. Clipsum includes features like **highlighting key points, organizing content into flashcards**, and restructuring information to make it easier to memorize concepts.

C. System Architecture

Our solution is scalable and cloud-based, which supports real-time content processing as well as note generation. Clipsum will support all simultaneous requests from users, and all user data and documents will be processed with encrypted secure channels that ensure privacy and confidentiality..

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METHODOLOLGY

The tool utilizes a mixture of machine learning models and NLP algorithms that sieve out important information and synthesizes readable summaries. The output mainly improves with time, as the model continuously tries to refine the content based on each user's input. Therefore, there is virtually any form of content that this tool can automatically Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you.

A. ABBREVIATIONS AND ACRONYMS

Below is a list of abbreviations and acronyms used in your paper. Each should be defined the first time they appear in the text, even if they have been defined in the abstract.

1. **AI** - Artificial Intelligence
2. **NLP** - Natural Language Processing
3. **EHR** - Electronic Health Records
4. **HIPAA** - Health Insurance Portability and Accountability Act
5. **GDPR** - General Data Protection Regulation
6. **ML** - Machine Learning
7. **SI** - International System of Units (from the French *Système International d'Unités*)
8. **CGS** - Centimeter-Gram-Second system of units

B. UNITS

- Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as "3.5-inch disk drive".
- Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
- Do not mix complete spellings and abbreviations of units: "Wb/m2" or "webers per square meter", not "webers/m2". Spell out units when they appear in text: ". . . a few henries", not ". . . a few H".

C.EQUATIONS

- Equation Formatting Guidelines:

1. **Font Selection**: Equations should be typed using either the Times New Roman or Symbol font. No other fonts should be used. If your equation is complex or multi-leveled, you may need to treat it as a graphic and insert it as an image after your paper is styled.

2. **Equation Example**

$$C=TS\cdot W(1)$$

Where:

- *C* is the prediction confidence,
- *S* is the severity of symptoms,
- *W* is the weight assigned to each symptom,
- *T* is the time since the first symptom appeared.

3. **Compact Equations**

Further Relations: If you wanted to expand on this and discuss how multiple symptoms combine to predict a particular disease, you might express it like this:

$$D=i=1\sum n(Si\cdot Wi)(2)$$

Where:

- *D* is the disease score,
- *S_i* is the severity of symptom *i*,
- *W_i* is the weight assigned to symptom *i*,
- *n* is the total number of symptoms.

4. **Italics and Symbols**

- Italicize all Roman symbols used for quantities and variables, such as x, y, a, b.
- Do not italicize Greek symbols such as α, β, or γ.

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Example:
F=ma(2)
Where F is force, m is mass, and a is acceleration.

5. **Minus Signs and Punctuation**
- Use a long dash (—) rather than a hyphen for the minus sign.
- If the equation is part of a sentence, punctuate it accordingly with commas or periods.

Example:
`x=y−z, where z=a+b.(3)`

6. **Referencing Equations**
- When referring to an equation in the text, use the form "Equation (1)" at the beginning of a sentence or "(1)" within a sentence.
- Correct: "Equation (1) illustrates the relationship between the variables."
- Correct: "As shown in (1), the model predicts..."

D.SOME COMMON MISTAKES AVOIDED

- The data **is** collected from various healthcare sources.
- The system's performance was evaluated using the constant **µo**.
- The patient described their symptoms as **"severe",** which prompted further analysis.
- Figure 1 contains an **insert** graph that zooms in on the symptom correlation data.
- **Alternately**, patients can opt to contact a medical expert for further consultation.
- The system **essentially** predicts the disease with 85% accuracy.
- A System for **using** AI.

A. This condition **effects** the patient.
B. The system **compliments** the existing database.
C. The patient's information was handled in a **discrete** manner.
D. The **principle** goal of the system is accuracy.

- The system's results **infer** that further investigation is necessary.
- The system provides a **non-invasive** method for disease prediction.
- According to Smith **et. al.** (2021)...
- The system supports multiple languages, **e.g.**, it is accessible to a global audience.
- The system can analyze various inputs, **i.e.**, text, voice, and medical records.

CONCLUSION

Clipsum is an innovational content summarizer of everything from videos on YouTube to documents in PDF and text. Advanced NLP techniques have been used towards the simplification of the extraction of key insights and preparation of structured notes, therefore further improving both comprehension and retention among users. With an even more user-friendly interface and fully customizable features, it is far more flexible to the different sets of customers- the students, professionals, and researchers- and is very ideal for streamlining study and review processes. As it grows in complexity and magnitude in content, Clipsum proves to be a most effective tool in helping one manage and synthesize information for improved learning outcomes and increased productivity. Further developments may extend its capabilities to include advanced content analysis and integration with other productivity platforms, thereby making it more useful in academic and business venues.

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