

**National Post Graduate College**

**Synopsis**

On

**AI Summarization with Picture based authentication**

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1. **Abstract of the Project :**

**Text summarization** refers to the technique of shortening long pieces of text. The intention is to create a coherent and fluent summary having only the main points outlined in the document. “The technique has proved to be critical in quickly and accurately summarizing voluminous texts, something which could be expensive and time consuming if done without machines.” Machine learning models are usually trained to understand documents and distil the useful information before outputting the required summarized texts. Propelled by the modern technological innovations, data is to this century what oil was to the previous one. Today, our world is parachuted by the gathering and dissemination of huge amounts of data. With such a big amount of data circulating in the digital space, there is need to develop machine learning algorithms and NLP (Natural Language Processing) that can automatically shorten longer texts and deliver accurate summaries that can fluently pass the intended messages. Furthermore, applying text summarization reduces reading time, accelerates the process of researching for information, and increases the amount of information that can fit in an area.

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# Thus, the purpose of this web application is to provide the summarized content to the

# intended users. The web application we are designing is easy to use. Users just need to upload their content which they want to get summarized. The application will get the results in seconds. Cutting edge AI technology will process it in real time and the users can enjoy their summary, the most important keywords and the key phrases.

1. **Existing System :**

There are various software and web applications which use AI to provide the summary. Some of them are Agolo, SummarizeBot, etc. Some of the features of these web applications are: summary generation, news summaries, keywords extraction, key fragments list, vary summary size, save your results.

1. **Proposed System :**

The application which we are developing is an AI Summarization with Picture-based Authentication. This application also provides the summary of the content like the above mentioned web applications. It will be generating a concise and precise summary of voluminous texts while focusing on the sections that convey useful information, and without losing the overall meaning. Automatic text summarization aims to transform lengthy documents into shortened versions, something which could be difficult and costly to undertake if done manually. NLP is used to comprehend documents and identify the sections that convey important facts and information before producing the required summarized texts.

What makes this application unique from other existing web application is its **Picture-based Authentication** and **Review Analysis**. This application provides a secure login to the users as it uses Picture-based Authentication which is difficult to crack. Hence, users can feel free to login and use the application. The application also provides the Review Analysis, that is, users can know about other applications in a wrapped-up form through this feature.

1. **Introduction to the Project :**

With the present explosion of data circulating the digital space, which is mostly non-structured textual data, there is a need to develop automatic text summarization tools that allow people to get insights from them easily. Currently, we enjoy quick access to enormous amounts of information. However, most of this information is redundant, insignificant, and may not convey the intended meaning. For example, if you are looking for specific information from an online news article, you may have to dig through its content and spend a lot of time weeding out the unnecessary stuff before getting the information you want. Therefore, using automatic text summarizers capable of extracting useful information that leaves out inessential and insignificant data is becoming vital. Implementing summarization can enhance the readability of documents, reduce the time spent in researching for information, and allow for more information to be fitted in a particular area.

The web application “**AI summarization with picture based authentication**” summarizes the content into precise and meaningful data. The user first need to login to the application by providing the e-mail address and a user name. The login is picture based, that is, there will be a grid of pictures and user can select among those pictures which will work as their password. Once the user is logged in, their account gets created. The user is further verified using the password he/she created. After the verification is completed, user moves on to the page where the actual work of summarization occurs. User can upload their content and get the summary of that content within few seconds.

This application basically has three important features: Authenticating, Summarizing, and providing Review Analysis.

**Image Based Authentication** is based on a user’s successful identification of his image password set. After the user name is sent to the authentication module, it responds by displaying an image set, which consists of images from the user’s password set mixed with other images. The user is authenticated by correctly identifying the password images.

**Text summarization** refers to the technique of shortening long pieces of text. The intention is to create a coherent and fluent summary having only the main points outlined in the document.

**Review Analysis** is the automated process of understanding the sentiment or opinion of a given text. This can be done through machine learning tool which provide insights by automatically analyzing product reviews and separating them into tags: Positive, Neutral, and Negative.

1. **Software and Hardware Specification :**

**Frontend used** :

HTML, CSS, JS

**Backend used** :

Flask Framework using python, SqlAlchemy for Sqlite

**Software Requirements:**

**Developer:**

1. Browser : Google Chrome(latest)
2. Development Environment : VS Code
3. Database : SQLite
4. Operating System : Windows 10 or Linux or Mac OS
5. Documentation tools : MS Word , MS Power point
6. Libraries : Numpy, Spicy, Pandas, Jupyter, Tensorflow, etc.
7. Framework : Flask SQLalchemy
8. Interpreter : Python 3.7 with Anaconda package

**Client:**

1. Browser : Google Chrome(latest) or Mozilla Firefox
2. Operating System : Any OS

**Hardware Requirements:**

**Developer:**

1. Processor : i3 or higher, AMD fx or higher
2. RAM : 4Gb or higher
3. Others : High Speed Internet

**Client :**

1. Processor : 1Gbz or better
2. RAM : 2Gb or higher
3. Others : High Speed Internet
4. **Conclusion:**

Text summarization is an interesting combination of machine learning and AI field that is increasingly gaining attraction. As research in this area continues, we can expect to see breakthroughs that will assist in fluently and accurately shortening long text documents.

This application can be used in various fields such as education, marketing, content creators, business, institutions and many more. User’s who will be benefited by this applications include students, teachers, professors, scientists, readers, lawyers, and more.

“Summarize your long texts, papers, researches, web links, etc. Save time and be more productive. **Just summarize it**! “